The EDISON ELECTRIC INSTITUTE BULLETIN

May 1956

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Accounting Conference Summary

What Management Expects of the Sales Department
J. W. McAfee

The Ramparts We Watch
Harllee Branch, Jr.

Regulation Is a Living Thing
H. Lester Hooker

Who Benefits from Automation?
Gwilym A. Price

Supervisory Indoctrination
Howard E. Hebble

ELECTRICAL RESEARCH STATISTICS
THE ELECTRIC LIGHT AND POWER INDUSTRY

Current Statistical Data Covering 100 Per Cent of Industry

(Includes Investor-Owned Companies, Cooperatives, and Government-Owned Utilities)

February, 1955-1956

SOURCE AND DISPOSAL OF ENERGY—MONTH OF FEBRUARY

	1956	1955	%
NET GENERATION* (Kwhrs in Thousands)			
By Fuel Burning Plants	37,361,536	31,659,162	+18.0
By Water Power Plants	10,625,973	8,570,767	+24.0
Total Generation	**47,987,509**	**40,229,929**	**+19.3**
Add—Net Imports Over International Boundaries	165,423	257,072	−35.7
Less—Company Use	143,143	128,664	+11.3
Less—Energy Used by Producer	1,078,750	523,605	.....
Net Energy for Distribution	**46,931,039**	**39,834,732**	**+17.8**
Lost and Unaccounted for	2,936,870	2,122,463	+38.4
Sales to Ultimate Customers	**43,994,169**	**37,712,269**	**+16.7**

CLASSIFICATION OF SALES

NUMBER OF CUSTOMERS—As of February 29th			
Residential or Domestic	44,600,512	43,335,858	+ 2.9
Rural (Distinct Rural Rates)	1,650,333	1,605,199	+ 2.8
Commercial or Industrial:			
Small Light and Power	6,037,214	5,962,127	+ 1.3
Large Light and Power	286,643	275,702	+ 4.0
Other Customers	168,633	166,817	+ 1.1
Total Ultimate Customers	**52,743,335**	**51,345,703**	**+ 2.7**
KILOWATTHOUR SALES—During Month of February (Kwhrs in Thousands)			
Residential or Domestic	12,200,120	10,957,507	+11.3
Rural (Distinct Rural Rates)	684,155	604,768	+13.1
Commercial or Industrial:			
Small Light and Power	6,924,418	6,311,922	+ 9.7
Large Light and Power	22,441,239	18,190,506	+23.4
Street and Highway Lighting	413,589	378,080	+ 9.4
Other Public Authorities	891,069	821,950	+ 8.4
Railways and Railroads:			
Street and Interurban Railways	221,763	225,524	− 1.7
Electrified Railroads	175,857	173,636	+ 1.3
Interdepartmental	41,959	48,376	−13.3
Total to Ultimate Customers	**43,994,169**	**37,712,269**	**+16.7**
Revenue from Ultimate Customers (Thousands)	**$725,160**	**$654,843**	**+10.7**

RESIDENTIAL OR DOMESTIC SERVICE

AVERAGE CUSTOMER DATA—For 12 months ended February 29, 1956			
Kilowatthours per Customer	2,779	2,587	+ 8.2
Average Annual Bill	$73.67	$69.33	+ 6.3
Revenue per Kilowatthour	2.63¢	2.68¢	− 1.9

* By Courtesy of the Federal Power Commission.

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The objectives of the Edison Electric Institute are:

The advancement in the public service of the art of producing, transmitting, and distributing electricity and the promotion of scientific research in such field.

The ascertainment and making available to the members and the public of factual information, data, and statistics relating to the electric industry.

To aid its operating company members to generate and sell electric energy at the lowest possible price commensurate with safe and adequate service, giving due regard to the interests of consumer, investor, and employee.

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CONVENTIONS AND MEETINGS

1956

JUNE

3 PIP Steering Committee, Traymore Hotel, Atlantic City, N. J.

4- 6 24TH ANNUAL EEI CONVENTION, ATLANTIC CITY, N. J.

10-14 National Association of Electrical Distributors, Ambassador, Chelsea and Ritz Hotels, Atlantic City, N. J.

17-21 ASME Semi-Annual Meeting, Statler Hotel, Cleveland, Ohio

17-22 59th Annual Meeting American Society Testing Materials and 12th Apparatus Exhibit, Chalfonte-Haddon Hall, Atlantic City, N. J.

18-20 American Society Heating and Air-Conditioning Engineers, Semi-Annual Meeting, Washington, D. C.

18-20 Canadian Electrical Association Annual Convention, Manoir Richelieu, Murray Bay, P. Q.

21-23 Northwest Electric Light and Power Association, Accounting and Business Practice Section, Multnomah Hotel, Portland, Ore.

22 Public Utilities Association of the Virginias Accident Prevention Conference, Hotel Roanoke, Roanoke, Va.

24-26 Wisconsin Utilities Association Accounting Section Convention, Schwartz Hotel, Elkhart Lake, Wis.

24-27 Michigan Electric Association Annual Convention, Grand Hotel, Mackinac Island, Mich.

25-29 American Society for Engineering Education Annual Meeting, Iowa State College, Ames, Iowa

25-29 AIEE, Summer and Pacific General Meetings, San Francisco, Calif.

JULY

16-21 International Organization for Standardization Council Meeting, Geneva, Switzerland

19-20 EEI Industrial Relations Committee jointly with Personnel Sections of the Wisconsin Utilities Assn. and North Central Electric Assn., Green Bay, Wis.

24-27 NARUC Annual Convention, Sheraton Palace, San Francisco, Calif.

SEPTEMBER

13-14 EEI-AGA Organization Meeting, Edgewater Beach Hotel, Chicago, Ill.

14-15—Public Utilities Association of the Virginias 38th Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

1956

17-19 EEI Industrial Relations Annual Round Table Conference, Drake Hotel, Chicago, Ill.

17-21 IES National Technical Conference, Hotel Statler, Boston, Mass.

24-26 EEI Meter & Service Committee, Purdue University, Lafayette, Ind.

26 PIP Steering Committee, Blackstone Hotel, Chicago, Ill.

26-28 PIP Workshop Conference, Blackstone Hotel, Chicago, Ill.

OCTOBER

1- 3 EEI Prime Movers Committee, Radisson Hotel, Minneapolis, Minn.

1- 5 AIEE Fall General Meeting, Morrison Hotel, Chicago, Ill.

3 EEI Area Development Committee Meeting, Radisson Hotel, Minneapolis, Minn.

3- 5 Indiana Electrical Association Annual Convention, French Lick Springs Hotel, French Lick, Ind.

4- 5 EEI Area Development Workshop, Radisson Hotel, Minneapolis, Minn.

7-10 Rocky Mount Electrical League Annual Fall Convention, Broadmoor Hotel, Colorado Springs, Colo.

10-11 Southeastern Electric Exchange Accounting Meeting, Hotel Seville, Miami, Fla.

15-16 EEI Electrical Equipment Committee, Hotel Statler, Cleveland, Ohio

18-19 EEI Transmission and Distribution Committee, Hotel Statler, Buffalo, N. Y.

22-24 7th National Conference on Standards, Am Standards Assn, in conjunction with 38th Annual Meeting, Hotel Roosevelt, New York, N. Y.

NOVEMBER

12-16 NEMA Meeting, Traymore Hotel, Atlantic City, N.J.

15 EEI Industrial Relations Committee, EEI Headquarters, New York, N. Y.

25-30 ASME Annual Meeting, Hotel Statler, New York, N. Y.

26-28 EEI Accident Prevention Committee, Statler Hotel, Hartford, Conn.

DECEMBER

6- 7 EEI-AGA 1957 Conference Planning Committee, EEI-AGA Headquarters, New York, N. Y.

Over 1200 Accountants Attracted to EEI-AGA Conference in New York

MORE than 1200 electric and gas utility accountants from every corner of the nation gathered April 16-18 at the Hotel Commodore in New York City to participate in the largest of the Annual AGA-EEI Accounting Conferences. Representing virtually all of the investor-owned electric and gas companies in the country, they discussed recent advancements in accounting procedures and mechanical equipment.

A general session opened the meeting on Monday afternoon, April 16, while the following two days were devoted to meetings of standing committees. The delegates were welcomed by Harland C. Forbes, President of Consolidated Edison Co. of New York, Inc., host company to the conference. Speaking for their respective associations, Col. H. S. Bennion, Vice President and Managing Director, and Edwin Vennard, Vice President, Edison Electric Institute, and Dean H. Mitchell, President, and C. S. Stackpole, Managing Director, American Gas Association, extended greetings to the conferees.

The Chairman of the EEI Accounting Division, John C. Faris, Union Electric Co. of Missouri, and the Chairman of the AGA Accounting Division, Edward R. Eberle, Public Service Electric and Gas Co., presided over the opening session at which the speakers were: Emmett J. Leahy, President, Leahy & Co., who spoke on "Capitalism's Seven Sins of Red Tape"; Judge H. Lester Hooker, Virginia State Corporation Commission, whose subject was "Regulation Is a Living Thing"; and Arthur H. Motley, President, Parade Publication, Inc., who had as his topic "Use It Or Lose It."

The words "file it" cost American businessmen millions of dollars every year, Mr. Leahy told the conference.

Mr. Leahy, who was chairman of the Task Force on Paperwork Management for the Hoover Commission last year, said: ". . . the average pipeline company can transport a gallon of oil over 1000 miles for a cent. We have a staff member who was a former captain in the merchant marine and he tells us that in the merchant fleet they can transport a gallon of oil from Texas to Maine for a cent. Do you realize that for the companies you represent, it costs a minimum of one cent to keep eight pieces of paper in your office files for a year? It costs a minimum of one cent for each standard five digit number or five-letter word in each of the millions of reports that the industry is sending to top management each year, or submitting them to Washington because of the insistence of some Federal, State, or local commission."

The nation's office workers are grinding out more than 175 billion pieces of paper annually and are filling 62 million file drawers each year, he stated.

Need to Keep Pace

Pointing out the need for utility commission regulations to keep pace with conditions, Judge Hooker said, "Regulation is not static. It must be changed as conditions change. It is like the Constitution . . . it is a living thing."

"Regulation is flexible—as conditions change regulation changes," Judge Hooker continued. "If regulation did not change to meet the inflationary conditions that have been and are now existing, it would not be operating in the public interest."

Judge Hooker's speech is printed in full on page 142 of this issue of the BULLETIN.

In his talk entitled "Use It or Lose It," Mr. Motley said that all businessmen are constantly faced with problems that they have met before and solved. He told the group, "Too much confusion and too many mistakes are made because the moment some problem arises, we fail to recognize it as an old friend which we had licked before."

Among the things about which Mr. Motley said he wished to "remind" his audience was climate.

"I am not referring to the climate which God gives us," he said. "I am referring to the climate that we create in our homes and offices, plants and territories, among our customers. We all know that a sunny climate indicates optimism in living, and the same is true in our business."

Another of the "reminders" Mr. Motley had for his audience was that of mass market. He told them: "We have a mass market and that is something that everybody talks about—the size of the market and the number of people; the number of homes and everything else—but that is something many people are not doing very much about."

"Now we are not turning down any business in 1956, even though we may make less money this year than we have in past years. We are not turning business down because it is costing us more money, but we are getting business that we did not even dream of or hope for.

"There is a mass market if we go after it!"

Mr. Motley continued: "Our problem is to remember what we know. Remember, what we know creates a

climate, and a pleasant and happy climate. We are doing a lot more for business than we have ever done before. That is going to permit us to take advantage of the largest mass market in the world, where people are not seeking the cheapest things, but the best way to the most service."

Sessions of the individual standing committees began on Tuesday morning when there were meetings of the General Activities, Accounting Employee Relations, Customer Accounting, Customer Collections, and Customer Relations groups. Luncheon sessions were held on Tuesday by the Customer Accounting, Customer Collections, Customer Relations, Internal Auditing, and Plant Accounting and Property Records Committees. Meeting for afternoon sessions that day were the following committees: Customer Accounting, Customer Collections, Customer Relations, Accounting Employee Relations, Depreciation Accounting, General Accounting, Internal Auditing, Plant Accounting and Property Records, and Taxation Accounting.

On Wednesday morning, prior to the Electronic Accounting and Machine Developments luncheon which closed the conference, committee meetings were continued. At that time, sessions were held for the Customer Activities, Depreciation Accounting, General Accounting, Internal Auditing, Plant Accounting and Property Records, and Taxation Accounting Committees.

Customer Accounting

During the Customer Accounting Committee sessions and luncheon, at which J. C. Luchsinger, The Cincinnati Gas & Electric Co., and R. B. Herrold, Columbia Gas System Service Corp., presided, eight subjects directly connected with the conference theme of "Cost Reduction" were presented by project chairmen. A discussion followed each presentation.

"Flight Plan of a Service Order" was jointly presented by G. E. Minister, Columbus and Southern Ohio Electric Co., and C. F. Wahli, Knoxville Utilities Board. This presentation by the Consumers Accounting Methods Committee described the manual of service orders procedures which has resulted from the collaborative efforts of several member companies.

A panel exhibit of sample orders was on display for two days of the conference.

H. L. Walworth, New York State Electric & Gas Corp., in his presentation on "Advantages of Monthly, Bi-Monthly, and Quarterly Meter Reading and Billing," made what has been called the most comprehensive report on this subject to date.

"Meter History and Test Records," the subject of Urban Farnsworth, Michigan Consolidated Gas Co., was a briefing on what some companies have done in this area. His explanation of Michigan Consolidated Gas procedure was illustrated with slides.

W. F. Ammann, The Toledo Edison Co., had as his subject "What's Back of the Trends in Meter Reading Production." He disclosed that 23 of 45 companies responding to a questionnaire reported increased meter reading production in the past five years. Representatives of several of these companies told of changes made that had made greater production possible.

In his presentation on "Single vs. Multiple Mark Sensed Meter Reading Card," E. J. Vetog, The Brooklyn Union Gas Co., reported that there has been a marked increase in companies engaged in mark sensed meter reading cards with the majority favoring a single month card. It is the belief of this project committee that all companies using punch card equipment will eventually accept the mark sensing method for meter reading.

"An Equalization Plan for Payment of Heating Bills," by J. F. Comeford, Philadelphia Electric Co., described the advantages of an equalization plan over the normal budget method for gas or electric space heating bills. The method employed by Niagara Mohawk Corp. was particularly cited.

"Customer Accounting Trends" was the topic of a presentation by R. D. Deeter, The Dayton Power and Light Co. His report told of most beneficial changes made by 69 companies during the past five years and he indicated a definite trend to mechanized accounting, mark sense meter readings, and extended reading and billing periods.

In discussing "Standardizing for Cost Comparisons," R. A. Krauss, The Cleveland Electric Illuminating Co., stated that this is definitely a long-term project since the preliminary report indicates a wide variation between companies in method of charging expenses. The committee has recommended that a special committee be appointed to more adequately define the proper meaning and description of FPC account classification.

Customer Collections

The Customer Collections Committee held a full-day session and luncheon with R. B. Williams, The Toledo Edison Co., and J. E. Malone, East Ohio Gas Co., presiding.

In his presentation on "A Look at Today's Collection Practices," F. T. Hager, Philadelphia Gas Works Division, The U.G.I. Co., pointed out that whereas in general collection practices and procedures remain pretty much the same, modifications are required due to changes in the economic pattern, but that these modifications are ever mindful of the collection dollar and satisfactory customer relations.

The application of electronic data processing equipment to credit and collection procedures was explained under the subject "Collection Work Adapted to Electronics" by E. M. Selfe, The Detroit Edison Co. Selection of accounts can be made electronically in a fraction of the time required manually, he reported.

An excellent presentation with committee recommendations that companies review the timing of their appeals, make greater use of telephone, analyze the effectiveness of notices on single month's arrears, and classify accounts as to paying habits was made in "Timing of Collection Appeals," a paper presented by R. V. Bowes, Philadelphia Electric Co.

L. J. Rauh, Baltimore Gas and Electric Co., presented a "Report on the Credit Picture," which is presented in the associations' periodicals bi-annually. Mr. Rauh noted that there is indication of increasing difficulty in making collections.

"Selection and Training of Personnel for Credit and Collection Work," was the subject of W. T. Brauer, Long Island Lighting Co. The project committee in effect made five reports on Job Evaluation, Selection, Induction and Indoctrination, Training, and special courses for Field Collectors.

There was a panel discussion on approximately 50 credit and collection problems at the afternoon session with K. S. Worth, The Brooklyn Union Gas Co., and Harry Hecker, Consolidated Edison Co. of New York, Inc., as moderators. The panel consisted of P. E Eddy, The Peoples Gas Light and Coke Co; Otto Price, Boston Gas Co.; R. B. Carpenter, Carolina Power & Light Co., and J. F. Rooney, Consolidated Edison Co. of New York, Inc.

Customer Relations

The Customer Relations Committee also held a full-day meeting and luncheon with H. F. Martin, Long Island Lighting Co., and B. J. McMillen, The Cincinnati Gas & Electric Co., presiding.

George S. Coates, Southern Counties Gas Co. of California, led a discussion on "Customer Service Order Systems and How They Work." He was assisted by N. Schaberg, Michigan Consolidated Gas Co., and C. J. Berner, Wisconsin Electric Power Co.

Harry E. Welsh, Southern California Edison Co., gave an interim report on a long-range project, "Company Policies and Procedure."

Fay E. Kee, Oklahoma Natural Gas Co., described methods used in extending use of the 1954 Customer Relations Training package and reported on sales of complete sets and extra material as of March 1, 1956. Sales have yet to reach the cost of original investment.

A preliminary report on a long-range project dealing with customer opinion surveys, entitled "You and the Customer," was given by C. T. Shoch, Pennsylvania Power & Light Co.

An up-to-date report of bill payment agency practices of 47 companies was presented by J. L. Neilson, The Brooklyn Union Gas Co. It was the committee's belief that there is no one type of agency that is preferred, although banks and drug stores predominate.

"What's New in Budget Billing" was presented by R. J. Hayward, Consolidated Edison Co. of New York, Inc., followed by a discussion period. There is a definite trend toward adoption of budget plans with improved collections and customer relations.

A report on "Customer Fuse Replacement Practices," made by J. V. Soisson, West Penn Power Co., revealed that, although most companies attempt to advise the customer how to replace fuses, 61 per cent of companies contacted provide free service and 35 per cent make a service charge ranging from 90¢ to $2.45 during regular working hours, and up to $7.00 for overtime calls.

H. R. Potts, Columbus & Southern Ohio Electric Co., led a discussion on "Customer Interview Facilities" which was supplemented by slide material showing facilities of 13 companies.

Joseph Purdy, Baltimore Gas and Electric Co., made his report, as liaison member of the Electronics Committee, on the impact of electronic data processions on customer relations. Access to records can be obtained in relation to the amount of money one wishes to spend on equipment, he said. Rapid access—that is, access in seconds—will be expensive with present available equipment.

L. E. Smith, The Peoples Gas Light and Coke Co., gave a brief report on "Gas Turn-off for Summer." Policies vary with different companies and customer preferences vary many times because of rate variations.

In concluding the Customer Relations session, J. A. Galvin, Boston Edison Co., led a discussion on "Impact of Residential Demand Rates on Customer Relations," and C. E. Lewis, Kansas City Power and Light Co., on "Methods of Notifying Customers of Billing Changes."

Customer Activities

The three standing committees of Customer Activities met jointly on Wednesday, April 18, the session being conducted by S. A. Cole, New York State Electric & Gas Corp., and E. M. Alt, Northern Indiana Public Service Co.

The Customer Relations contribution was a report on "Promoting Caution Near Utility Facilities" by W. C. Skidmore, Long Island Lighting Co. The highlights of this report were illustrated by an electrified demonstration board used in educational programs of Long Island Lighting.

Melvin Wuest, The Cincinnati Gas & Electric Co., spoke on the subject "Standardization of Credit Policies on Opening New Accounts." This was the Customer Collection committee offering for the joint session. Mr. Wuest advised that rather than see how many different ways can be developed to do the same job, we should strive for uniform techniques in our credit policies.

The Customer Accounting Committee offered the subject "Planning for and Operating a 650 Magnetic Drum Calculator." There was a panel discussion with C. D. Otcasek, The East Ohio Gas Co., and R. G. Maas, Wisconsin Electric Power Co., as moderators. Panel members were: J. G. Cadby, Wisconsin Electric Power Co.; D. C. Gillespie, Columbia Gas System Service Corp.; W. M. Remington, The Detroit Edison Co.; W. J. Ott, The Cincinnati Gas and Electric Co.; and R. C. Young, American Gas and Electric Service Corp. Three of the five panel members represented companies having 650 calculators, and the other two have them on order.

Depreciation Accounting

At its meeting on Tuesday afternoon, the Depreciation Accounting Committee heard three papers. Wetmore Dawes, Commonwealth Services, Inc., spoke on "Levels of Depreciation." "Practical Problems Behind Depreciation Accounting" was the subject of a presentation by S. B. Barton, Pacific Gas and Electric Co.

Pictured together prior to the opening of the first session of the Accounting Conference are (left to right) Edward R. Eberle, Chairman of the AGA Accounting Section; Dean H. Mitchell, President of the American Gas Association; John C. Faris, Chairman of the EEI Accounting Division, and Harland C. Forbes, President of Consolidated Edison Co. of New York, Inc., host company.

Henry Whiton, Virginia Electric and Power Co., presented a paper entitled "Survivor Curve Types."

Presiding at the Depreciation Accounting sessions were P. K. Read, New York State Electric & Gas Corp., and S. W. Binckley, Southern California Gas Co.

At their Wednesday morning session, Depreciation Accounting Committee members heard the following papers: "Court and Commission Decisions Relative to Depreciation," by R. A. Rosan, Columbia Gas System Service Corp.; "Observations on the Salvage Problem," by C. N. Rice, Jr., Northern States Power Co.; "Comments on Accelerated Depreciation," by William J. Foster, Jr., New York State Electric & Gas Corp.; and "Discussion of Methods and Mechanics of Computing Accelerated Depreciation," by L. W. Robinson, Consumers Power Co.

The discussion by Messrs. Foster and Robinson was based upon the EEI-AGA Depreciation Accounting Committees' Report of the Project Committee with Respect to the Effect Upon Electric and Gas Public Utility Companies of the Provisions for Accelerated Depreciation for Tax Purposes in the 1954 Internal Revenue Code.

Plant Accounting and Property Records

Activity of the Plant Accounting and Property Records Committee opened at a luncheon meeting on Tuesday, at which time was presented three on "How - We - Do - It" papers covering individual company procedures and practices. Two papers dealing with blanket work orders provided interesting comparisons. One, presented by R. C. Cravens, Kansas City Power and Light Co., outlined the method used by a combination electric, gas, and water company. The other, made by P. E. McClellan, Citizens Gas and Coke Utility, described the procedure of a small gas utility.

A paper entitled "Cooperation of Operating Personnel in Plant Accounting" by C. E. Pullum, Alabama Power Co., described a method used in acquiring that cooperation in handling of paperwork and reporting in respect to plant accounting and property records.

During the afternoon a panel session became a veritable workshop wherein committee representatives and conference delegates discussed an accumulation of questions and problems relating to industry practices concerning plant accounting procedures. The panel, which was moderated by George A. Brownmiller, The Connecticut Light and Power Co., was composed of Stanley H. Cady, Rochester Gas and Electric Corp.; Glen C. Culp, Central Illinois Light Co.; Hugh L. French, Baltimore Gas and Electric Co.; Bill W. Henry, Philadelphia Gas Works Division, The U.G.I. Co.; Larry E. Nash, Texas Eastern Transmission Corp.; and George F. Oehmke, The Detroit Edison Co.

Project reports and the showing of colored films highlighted the Wednesday session. John Hanna, Public Service Electric and Gas Co. presented a sub-committee report on "Problems and Practices Occasioned by Transfers of Property." This was a summation of how retirement units are determined in problems of construction vs. maintenance and transfers of property between accounts, as well as classes of utility plant.

A project report developed by long line gas transmission company representatives, entitled "Utility Plant Reports for Management," was made by A. C. Martinson, Transcontinental Gas Pipe Line Corp. In this report, basic principles were discussed and illustrated as an approach which may be taken to make the plant reports more useful to management by (1) carefully planned and engineered summary statements; (2) making narrative statements brief, clear, and unmistakable; (3) reducing the over-all volume of material being sent "upward"; and (4) making the reports more comprehensive and less difficult to understand.

Two colored films—"Hi-Line Ho!" showing construction of a 230-kv transmission line, and "Eternal Flame," depicting drilling of a gas well and construction of transmission and distribution gas lines to wheel the gas to its ultimate consumer — furnished a pictorial and educational detail of the components of construction. Introducing and commenting upon the two films were L. W. Burns, Northern States Power Co. and C. A. Gracy, Jr., Long Island Lighting Co.

M. B. Romeiser, Niagara Mohawk Power Corp., and G. F. Dixon, Milwaukee Gas Light Co., presided over the Plant Accounting and Property Records session.

Internal Auditing

The Internal Auditing Committee opened its sessions with a luncheon on Tuesday. At its first afternoon session, presided over by Biron Ganser, Philadelphia Electric Co., and Charles Mullen, Niagara Mohawk Power Corp., a paper was delivered by Harris R. Symes, The Detroit Edison Co., on "Effects of Electronic Machines on Internal Auditing." Mr. Symes described the problem created for the internal auditor by the machines, discussed the establishment of adequate internal control routines, and presented as a case study the adaptation of the internal auditing program in his company to using electronically processed data.

In a paper on "Progress 'Report' Through Sharing," Robert B. Tritton, The Cleveland Electric Illuminating Co., discussed the results of two comparative studies on areas of internal auditing activity — the auditing of payrolls and materials and supplies. The purpose of these studies is to provide internal auditors with a basis for making a self-evaluation of their activities. During the coming year, this committee will make studies of the auditing man-hours expended per customer and the auditing of the commercial disbursements function.

The program for the Wednesday morning session was devoted to a round table of work shop discussion of six current auditing problems. These were: What method can be used to ascertain that every service connection is being billed? How can tree trimming work done by outside contractors be appraised? What measures are taken to control trucked coal and how can the auditor appraise these controls? To what extent should inventories be made of fixed assets—such as general office, shop, or transportation equipment—to test the accuracy of the plant accounting records? What can be done to reduce the cost of taking inventories of materials and supplies? What routines are applied to assure that meter readers are performing assigned operations and following approved instructions?

A general discussion from the floor followed.

General Accounting

The emphasis on the conference theme of "Cost Reduction" was significantly reflected in the program of the General Accounting Committee.

Presiding over their sessions were R. J. Plourde, The Detroit Edison Co., and James A. Laing, Natural Gas Pipeline of America.

The Tuesday session opened with a talk on "Operations Research—What Is It?" by Dr. Leonard Swanson of Arthur Andersen & Co. Pointing out its application to almost every phase of business, Dr. Swanson indicated that with proper sampling and compilation of fixed and variable data, mathematical formulae can be developed to ascertain optimum performance or selection in a given situation. Dr. Swanson emphasized that the operations research approach to the solution of accounting problems was not near as complex as might be concluded from observing the slides used in illustrating his talk. He also indicated that high speed computers are very helpful but not essential to the processing of these formulae.

George Bem, Natural Gas Pipeline Co. of America, introduced the panel for a discussion on "Case Study of Accounts Payable." Acting as moderator was George Jones, Potomac Electric Power Co. This unique and effective presentation, employing a question and answer procedure, covered quite thoroughly the practices of various companies in the area of accounts payable from the issuance of the purchase order to the payment for goods received. Panel members were W. R. Butler, Lake Shore Gas Co.; W. E. Grinter, Consumers Power Co.; C. C. Manley, New Haven Gas Co.; J. R. Watson, The Detroit Edison Co.; G. I. Simpson, The Peoples Gas Light and Coke Co., and B. H. Sherry, Baltimore Gas and Electric Co.

J. D. Hogan, Michigan Consolidated Gas Co., reported on "Productivity Accounting." His talk centered on potential of work measurement and the development of standards for controlling and comparing costs. He pointed out that one unit of measure which meets all requirements and which is unchangeable is the unit of time measurement. The delegation of responsibility together with responsibility reporting is not completely effective unless accompanied by standards of performance which in effect establish "par for the course." Mr. Hogan also urged the General Accounting Committee to continue studies in this area of cost control.

The Wednesday morning session opened with a talk on "Cash Flow Reports to Top Management" presented by James Poole, Natural Gas Pipeline Co. of America. Mr. Poole pointed out the enormous need for new money in the post war years, the necessity for planning cash requirements several years in the future, and the importance of a properly balanced financial structure. Likewise he stressed the importance of properly measuring and forecasting cash generated within the company so that management may be informed as to the amount and timing of new money financing. Mr. Poole's paper also described the development and compilation of a cash flow report.

"Controlling Costs Through Responsibility Reporting" was presented by H. S. Sawin, Price Waterhouse and Co. W. E. Sauer, The Peoples Gas Light and Coke Co., and A. L. Burgess, Northern States Power Co., participated with Mr. Sawin in the discussion which followed by answering questions from the audience. Mr. Sawin pointed out that present management conception of decentralization and delegation of responsibility and authority must be accompanied by appropriate responsibility reporting so that executives may properly measure and be held accountable for their performance. He also discussed the problem of integrating a responsibility reporting system with the prescribed uniform system of accounting.

Harold Nichols, Rochester Gas and Electric Co., presented a paper on "Are Your Stockholders Informed?—Interim Report." Based on a survey of 74 companies, a statistical analysis was made of the type and frequency of reports to stockholders other than the customary annual report. The survey revealed that there is a wide variety in information furnished to stockholders in reports and letters and special communications to new stockholders.

C. F. Mills, Philadelphia Electric Co., followed with a talk on "Annual Reports to Stockholders." His review of the current 1955 reports from the utility industry covered the accounting treatment of such items as accelerated depreciation, atomic power, accrued expenses, storm damage, and other items which reflected current happenings. Mr. Mills also made comparisons of the accounting treatment of the above items as reflected in industrial reports. Reference was made to changes in terminology of various balance sheet and income statement captions, indicating the trends as determined by predominant use.

The final paper was presented by Ohmer Ullery, The Ohio Fuel Gas Co., who gave an outline talk on "Annual Resume of Accounting Developments." Mr. Ohmer touched on matters of current interest such as accelerated depreciation, repeal of the Internal Revenue provisions with respect to accrued expenses, and new FPC regulations on the preservation of records.

Accounting Employee Relations

The Accounting Employee Relations workshop session on Tuesday morning was devoted to the following presentations: "Are We Overdoing Employee Indoctrination" by H. M. Currey, Niagara Mohawk Power Corp.; "Talk Is Cheap" by J. F. McCahon, Philadelphia Electric Co.; "Are Wage Costs Beyond Supervisory Control" by L. G. Brailey, The East Ohio Gas Co.; and "What Price Employee Security" by D. S. Lord, Public Service Electric and Gas Co. The committee member making the presentation acted as moderator for his own subject during the discussion which followed each topic.

The afternoon panel discussion on "Employee Relations" was moderated by J. F. McCahon, Philadelphia Electric Co. The panel—composed of D. E. Maloney, The East Ohio Gas Co.; J. J. Leary, Boston Edison Co.; C. E. Berry, Duquesne Light Co., and T. J. Blake, The Peoples Gas Light and Coke Co.—acted as experts for answering questions from the audience. The open house free discussion type meeting once again proved that an audience always enjoys being "in the act."

The two sessions were presided over by Mr. McCahon and George A. Ford, The Connecticut Light & Power Co.

Taxation Accounting

Henry M. Hobson, Public Service Electric and Gas Co., and M. S. Lonon, Consolidated Natural Gas Co., presided at the Taxation Accounting session on Tuesday afternoon. In addition to a "Report of Subcommittee on Proposed and Introduced Federal Tax Legislation and Regulations" by Henry W. Ziethen, The Peoples Gas Light and Coke Co., and "Report of Subcommittee on Excise Taxes" by George J. Covalt, The West Penn

(*Continued on page* 160)

What Management Expects of the Sales Department

By J. W. McAfee

President, Union Electric Company of Missouri

An address before the 22nd Annual EEI Sales Conference, Chicago, Illinois, March 28, 1956

IT is conceivable that there might be an unfavorable inference in the title "What Management Expects of the Sales Department." I should not like it to be supposed that I believe that industry management generally is dissatisfied with the level of attainment by the sales effort. As the years have gone on and my acquaintance with sales executives has broadened and my knowledge of what they are doing for their respective companies and for the industry generally has increased, my confidence that a perfectly splendid record has been established is strengthened.

Respect for Audience

As a matter of fact, my regard for those of you who are here today is such as to make this talk an extremely difficult one for me. I have given a considerable amount of time to thinking about the subject and discussing it with my associates but after all that, I seriously fear that I have not come up with anything that you have not thought of long ago.

Despite all these compliments, sincerely given, I still have in mind that the men in sales work belong to the human family and that they are no more likely to attain perfection than are the rest of us. The sales opportunity is so challenging and is so enormously important to the enterprises we represent that striving towards a near approach to the goal of perfection in this field is exciting indeed.

Sales Work Objectives

The basic objectives of electric utility sales work are simple to state: (1) To produce the maximum volume of profitable sales with the lowest possible budget; (2) To service those sales in such a way as to obtain full customer satisfaction; (3) To obtain from the many customer and public contacts that are peculiar to sales work facts and ideas which can be constructively used in advertising and public relations programs; (4) To instill throughout the organization sales consciousness and to stimulate a concerted effort for financial success.

As I say, the results expected from this department are so obvious as to hardly be worth stating. It is just as obvious that their attainment involves an extremely complex series of problems and judgments which are difficult of solution and are even more difficult of evaluation or measurement.

I have always felt that the sales job could be done easier and better and that the work would be much more stimulating if some way could be devised to more definitely and accurately judge the productiveness of the various features of our program.

Complexity of Items

Even those items which are relatively simple in other businesses seem to become complex under our operations. Take, for example, the merchandising of appliances. The ordinary merchant can take a look at his gross and net and the inventory remaining after the period under consideration and reach an accurate conclusion as to how good a job has been done. His advertising is either good or bad as it produces or fails to produce sales. But take a look at an electric utility company which is merchandising appliances. The principal objective is not the sales the company makes. The whole effort is geared to producing load. It is easy to imagine a situation where the volume of appliance sales is high, a satisfactory profit made on the sales but, because of the impact of the activity on area dealers, the result from a load-building standpoint would be bad. Incidentally, my associates and I even found it very hard to determine whether appliance sales in our particular locality at this particular time helped or harmed our business generally. You might be interested in a few of the factors that influenced us to discontinue this activity.

As our principal objective was load-building, we were not always free to do the very best job of merchandising. It was quite frustrating to be in a business activity which was limited or hampered by considerations not inherent in it. Secondly, we came to the belief that many of the reasons for our having originally gone into the field had either disappeared or lessened in degree. We were much impressed by the results of our belief that it was not in the interest of the company to engage in any substantial extent in price markdowns. Consequently, when others were having sales or when price wars arose, it left us looking as though we were "high chargers"—a reputation which we deplored and which, certainly, could not justifiably be applied to our electric rates. Lastly, and probably of most importance, we believed we could do a better job of cooperating with and strengthening the dealers in our territory if we got rid of this undertaking.

I hope it will not sound as though I am interested in persuading others who have a different practice to reach the conclusion that we have adopted. The points involved vary with localities and with companies. In fact, the situation in the territory of some of our subsidiary companies is such that they have very properly continued merchandising.

Standards for Success

Coming back, now, for the moment to the important subject of establishing standards for the measurement of the success of the Sales Department. A very good start could be made on the problem if there were a way to establish the extent of the potential market for electricity, particularly electricity for use in the home. Take a man earning $7500 a year, having a wife and two children; and owning a six room house. What is the number of kilowatthours per year that such an individual can justify using at a given rate? If we could answer that question, then by analyzing the economic stature of all of our customers, we could establish with reasonable

accuracy a maximum sales target. From then on, about the only adjustments we would have to make would be those resulting from improved income and its relation to inventions that required electricity.

Selective Selling

Thinking of the same individual and having established a target for him, what would be a sound order of priority for him to follow in purchasing appliances that would bring him up to maximum usage? This thought brings us up to the question of selective selling, an idea to which more and more attention is being given. In talking about this subject, one must be careful that he is not misunderstood by the public. No one in our industry expects the customer to buy an appliance solely because it is good for the electric company. However, load factor is an important element in the economics of our business and it is just as important to the customer as it is to the company. Just about a year ago, I heard Ed Vennard give an extremely interesting talk on this important subject. He took an imaginary company and was able to show that an improvement of one per cent in residential load factor would produce as much improvement in net as would a ten per cent increase in rates. Obviously, the customer would benefit greatly from such an improvement since it would result either in a better price to him or in protection against the necessity for rate increases to meet the continually higher costs. The result would not be as good in every company as it was in the one which Mr. Vennard used in his example, but there is not a company in the country that would not be greatly benefited by improving its load factor. There is no question in my mind that our sales departments will continue to give attention to this important factor and that it will prove to be a constructive improvement; for example: we estimate that just 20 kwhr per month added off peak to the load of each residential customer would produce one per cent improvement in the load factor.

Areas of Easier Attack

The load factor problem can be much easier attacked in the commercial and industrial field because most of the customers are alert to it and because of the rate structures applicable to them, are anxious to obtain for themselves the advantages available.

One of the most interesting things about the Sales Department is that it must be the imaginative department. The opportunities available are as broad as human needs; in fact, one of the primary problems for the executive is the judicious selection of the points at which to concentrate his department's energy and money.

The electric utility is a permanent part of any community and must play its part in community development. The competition between cities for new enterprises is vigorous. The success of the electric company is, in part, dependent on how successful its city is in the contest. By training and experience, the sales executive is particularly well equipped to play a major role in this field for his company and his community. Clearly, it is not a job for one individual or one company so, at the very outset, there is the task of developing community spirit and resources. It is not a routine job and, more than almost any one you can think of, requires imagination, planning and work.

Industry's Share

Some extremely interesting things are being done along this line, as you know. No doubt others will be thought of and I am sure that our industry will contribute more than its share. One thinks of the leadership of some of the utilities in making special arrangements for the service of large power-using industries, some of which have unique power problems. A lot of questions suggest themselves that I do not have answers to but feel sure that with all your experience and skill you can solve.

For example: there is a question that has always intrigued me, which is related to the very high investment which we have to make in order to obtain a dollar of gross sales. It seemed odd to me that we have not found some way to develop customers who could and would provide a substitute for the expensive reserves we maintain in order to carry seasonal and other peaks. Suppose you had an industry in which the cost of power is an important factor. Suppose it is contemplating the construction of a plant at a capital cost of 75 cents for each dollar of sales and designed to produce X units per annum. If we are to serve the plant and maintain reserves of 12 or 15 per cent in order to insure continuous service, we will have to invest about five times as much per dollar of sales as does the manufacturer. Why then should not the manufacturer enlarge his plant so as to enable him to give up production or at least limit production during seasonal peaks in order to permit us to serve him more economically? Of course it is not as simple as my little illustration makes it. I know there is a problem of keeping labor continuously employed but the universality of vacations might help in this connection.

Commercial Realities

Ideas, many of them much more practical than this one, are continuously being generated in the organization. We always expect the Sales Department to analyze them and come up with a sound answer. We get a very good value from the fact that our Sales Department is staffed with men who are well equipped to keep our organization conscious of commercial realities. One of the most difficult managerial problems in the electric utility business is that of keeping the whole organization alive and stimulated for best performance.

Our situation in this regard is affected by a number of things which are peculiar to the business. In the first place, it looks as though we are relatively free of competition. True, there is some visible competition from other fuels in the cooking, water heating, space heating and related fields, but it is generally thought that we are in a monopolistic position. Of course you know and I know that this, to a large extent, is not true. We are actively in the great American game of fighting for the customer's dollar.

Complacency Invitation

Secondly, many of our most valuable men have no direct contact with the commercial world and their work is largely divorced from financial considerations. With all of the things in our picture that invite complacency, I am amazed that we do not have more of it. We are supplying an essential service, the demand for which has been growing rapidly and will continue to grow. As an industry, our credit is good and as of today, it is relatively easy to raise the large sums of money which our operations demand. There is a sort of superficial intimation that we are always assured of a fair rate of return through the privilege of seeking rate increases when they are required. Let these and

some of the other things that make it appear that an electric utility is in a wholly secure position seep into the consciousness of that part of the organization that has no important responsibility for the financial result and unless they are offset, you run the risk of having some who are led into the belief that something less than their best effort is sufficient.

No Place for Taking It Easy

There is no place whatever in this old game of American business for taking it easy. No matter how many natural advantages are available to us, we can survive and prosper only by continuing to operate in high gear. This is particularly true because of another invisible competitor—one who is dangerous to the industry and to the country. It is represented by the bloc which is continually seeking to socialize our business.

If that effort should completely succeed, it would not only greatly harm the serviceability of electricity to this country but would, I firmly believe, be the beginning of the end of a free competitive economy.

Dependence on Reasonable Balance

The success of our system depends upon a reasonable balance between investment opportunities and the total of savings available for investment. To remove the opportunities we provide in this field and the incentive to savings which those opportunities create would seriously impair that balance.

It is largely a difference between freedom and compulsion. The money which we use to construct, maintain, and operate our facilities can come only from the people—from customers as payment for services or from investors who choose to become part owners of our business. If the government takes us over, the money must come from the same source, the difference being that every taxpayer becomes an investor without any hope of compensation for the investment he is compelled to make.

An even more serious threat is inherent in the enormous power which political ownership and management places in the hands of those in charge. Regulation can be effectively applied to privately owned business, and is effective in keeping in bounds the power which is entrusted to them. Government owned and operated activities have never been effectively regulated and it seems unavoidable that they will never be. It was recognized from the formative days of our constitution that courts are politically weak and the same applies to quasi-judicial agencies.

Meeting the Threat

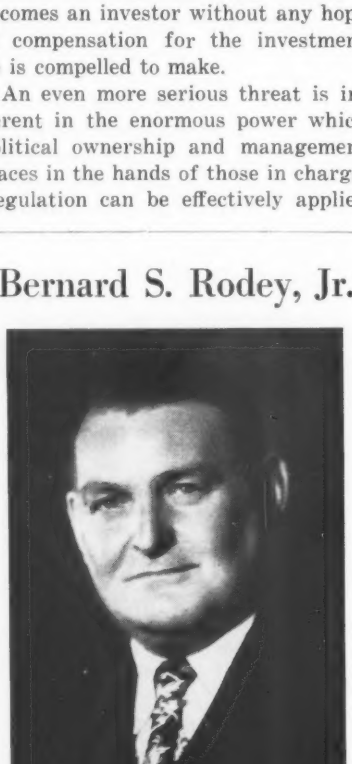
There are many things to do to meet this threat, but the first essential is that the industry be always alert to improve the great record of progress, efficiency and economy which it has established through the years. This can be done only by an organization the members of which are enthusiastic about their work and are fully alert to the compelling necessities of financial success. It is the salesman who sees these facts most clearly and is, in fact, up against these necessities every day. Consequently, we and our industry look to you gentlemen and your staffs to sell not only our customers but ourselves.

Bernard S. Rodey, Jr.

BERNARD S. RODEY, JR., Manager of the Tax Department of Consolidated Edison Co. of New York, Inc., since 1946 and former chairman of the EEI Accounting Division, died unexpectedly on May 11 at the Wheatley Hills Golf Course Club in East Williston, Long Island, N. Y. Mr. Rodey was 62.

His career had included 32 years of active participation in industry affairs through national industrial associations. In 1924, he was named to membership on the National Budget Committee and Fixed Capital Committee for the National Electric Light Association, predecessor of the Institute. In 1937 he became chairman of the EEI Accounting Division, a position he held until 1940. It was under his leadership that technical committees were reorganized, and that a national conference of utility accountants was initiated.

Born in Albuquerque, N. M., Mr. Rodey attended local schools and was graduated in 1913 from the U. S. Naval Electrical School at Mare Island, Calif. Earlier, he had been employed as a lineman by the Puerto Rican Sugar Co. and as a construction foreman for the Puerto Rican Railway, Light and Transit Co.



BERNARD S. RODEY, JR.

In 1913, Mr. Rodey joined the U. S. Navy, advancing from electrician to the rank of Lieutenant (j.g.). In 1921, he joined New York Edison as an engineer. He became interested in accounting and in 1923 joined United Electric Light and Power Co., a predecessor firm of Con Edison.

Mr. Rodey received a law degree from New York University in 1928. An exponent of adult education, he also received a doctorate in law from NYU in 1938. He also served as a lecturer in public utility accounting at the university.

A recognized authority in the field of public accounting, Mr. Rodey wrote a number of articles on his specialty, and, together with Dr. J. Rhoads Foster, co-authored the text *Public Utility Accounting*.

Since serving as chairman of the EEI Accounting Committee, he had been active on the Institute's Depreciation Committee, Application of Accounting Principles Committee, and Classification of Accounts Committee. In addition, he had been prominently affiliated with joint EEI-AGA Committees. His activities on behalf of the American Gas Association and the Controllers Institute of America were major ones also.

Mr. Rodey is survived by his widow and by three daughters, Mrs. Donald Charlesworth, Simsbury, Conn.; Mrs. Richard Steele, Montclair, N. J., and Mrs. Robert J. Stewart, Jr., of Minneapolis, Minn.

The Ramparts We Watch

By Harllee Branch, Jr.

President, Edison Electric Institute, and
President, Georgia Power Company

An address before the Annual Meeting of the Southeastern Electric Exchange, March 12, 1956, Boca Raton, Florida

MY term as president of the Edison Electric Institute has been an exciting and enlightening experience.

I have travelled throughout the country. I have visited with officials and employes of many of our investor-owned electric utilities on their home grounds. I have had the opportunity to see the splendid job they are doing in providing their constituents with efficient and dependable electric service at reasonable rates. I have seen the results of their magnificent community and area development programs. I have reviewed their construction programs and have marvelled at the vision and courage with which they are planning and building for the future, and at the audacity with which they are pouring literally billions of dollars into new and expanded facilities.

I have also visited with the leaders of many allied businesses including the manufacturers of electrical apparatus and appliances who have contributed so greatly to the advance of our industry. I have talked with them about their operations and the almost breath-taking research and planning activities in which they are engaged.

"Grass-Roots" Level

It has also been my privilege to talk at the "grass-roots" level with customers of investor-owned electric utilities in many scattered sections of the country—and with their public officials and civic leaders.

Out of this experience I have gained many impressions. One of them is that our country is bigger and younger and more vigorous than I have ever imagined. It is also more varied and kaleidoscopic. But, with all of its bigness and with all its variety, it is unbelievably homogeneous. Accents and dress, social institutions, political affiliations, and even manners vary from region to region. Beneath these superficialities, however, there is an identity of aspiration and of philosophy such as never before has existed among so many millions of people of such diverse origins scattered over so extensive a land mass.

It is my impression that the average American, regardless of his place of abode, wants desperately to achieve for himself and to pass on to his children that freedom and dignity, that sovereignty over state, and that independence of arbitrary social and economic controls which have never been fully attainable anywhere in the world except in this country.

Resistance to Allurements

Demagogues and political sycophants may confuse the average American, may lead him down blind alleys, and may even persuade him to give up his birth-right of freedom and dignity for a mess of pottage falsely labelled "security"; but, after travelling around the nation this year, I am convinced that there is in our citizenry a much greater will and capacity to resist such allurements than I had previously thought.

The only thing needed is alertness, courage, cohesion, and stamina in those who watch the ramparts of our American way of life. And my travels have convinced me that our investor-owned electric utilities, in every section of the nation and to an extent which few of them fully realize, are "watchers of the ramparts."

This is true, in the first place, because the health and security of the nation depend upon a strong and stable economy and upon an efficient and productive industrial machine—and modern industry is almost completely dependent upon electricity. Electricity has given the American workman the productive capacity of 250 men and has enabled him to earn more money and to enjoy a higher standard of living and more leisure than any other workman in the world. Those who manage and operate our electric utilities are in a very real sense, therefore, guardians of the prosperity which is so essential to our freedom.

We are also "watchers of the ramparts" because the very essentiality of our industry makes us the natural target of those who would socialize the nation. These enemies of free enterprise are constantly at work to undermine us, to make us suspect in the eyes of the public, to hobble us with needless and burdensome regulations and to embarrass us with subsidized competition.

The central, the overwhelming problem of the electric industry, besides which all other problems fade into comparative insignificance, is to halt the encroachment of these subsidized power groups.

Admiral Ben Moreell, Chairman of the Hoover Commission Task Force of Water Resources and Power, said in a recent address:

> "I believe that all public power which is subsidized by tax funds, whether on the Federal, state or local level, is economically and morally wrong . . . Federal power sets an evil pattern for all other segments of the economy in self-seeking competition for government handouts. These handouts are bought with votes; and when votes are thus prostituted, freedom is endangered."

Thus the electric industry is not manning the ramparts for itself alone, but for the preservation of the independence and morality of all American business.

Setting the Pace for Expansion

I would like to talk about this aspect of our stewardship in somewhat greater detail in a moment. Before doing so, however, let me say that if we are to prove ourselves at all worthy, our first responsibility is to set the pace for—not merely keep abreast of—the expanding American economy. We must continue, as we have always done, to have electric power available *before* and *not after* it is needed.

From what I have seen, I can assure you that this part of our responsibility is being aggressively and efficiently fulfilled. Last year, for

example, the nation's investor-owned electric industry generated 420 billion kilowatthours, an increase of 13.3 per cent over 1954. In 1955, our industry set an all-time record for building new generating plants and expanding existing plants. The 8.1 million kilowatts added last year increased our total generating capacity to 87 million kilowatts, up 9.8 per cent over 1954.

Despite an unprecedented demand for electricity, America ended 1955 with a margin of 18 per cent of reserve generating capacity over peak demand.

Notwithstanding this phenomenal progress, predictions of "power shortages" continue to be heard. A month ago, for example, a writer in a Washington, D. C., publication announced that "Latest Federal Power Commission figures show the electric industry is only a few kilowatts ahead of consumer demand in several states and will be overtaken soon in some places."

"These shortages," the writer said, "will sharpen the public vs. private power battle in this election year and will force both camps to step up preparations for meeting long-range electricity demands."

Uncle Sam and Power Shortages

This article was widely quoted throughout America. What it failed to make clear was that the principal threat of power shortages was in areas where the government has assumed utility responsibility. I could not help but recall the significant article by William Hard in the *Reader's Digest* of July, 1953, entitled: "Trust Uncle Sam to Get You a Power Shortage." But I wonder if the average "man in the street" is yet aware of the fact that this is an old game—one that the proponents of government power have been playing since the beginning of World War II. They try to talk us into power shortages as a pretext for more Federal intervention in the electric business.

What are the real facts?

1. As I said, the margin of reserve generating capacity over peak demands increased from a low of 6.1 per cent at the end of 1947 to 21.2 per cent at the end of 1954, and 18 per cent at the end of 1955. Comparable gains have been made in the construction of distribution and transmission facilities.

2. Long-range estimates of the growth of the electric industry indicate that we will continue to double in size every ten years. It is estimated that by 1965 America's electric generating capacity will have grown from 120 million kilowatts to about 215 million kilowatts and by 1975 to about 400 million kilowatts.

3. Our construction expenditures for the next ten years should average about $3 billion a year, ranging upward from the current rate of something over $2.5 billion a year to $4 billion by 1965.

These figures, taken from the most reliable sources available to our industry, indicate that the business-managed electric companies know what is going on; that they are meeting present demands and preparing to meet all foreseeable demands for power in their territories; and that the investors of America have confidence in the integrity of our industry and are willing to participate with us in the growth of the electric power business and, indeed, to make that growth possible.

Now it would be foolhardy to say that there will be no local or temporary power shortage anywhere in the United States in the next year, or five years, or ten years. However, I think any responsible observer can say that customers served by the investor-owned segment of the industry will not experience a power shortage of significant extent and duration, provided the additional capital funds to pay for our expansion are not frightened away by the enactment of punitive and restrictive Federal or local statutes or by failure of the regulatory agencies to permit us to earn a fair return on our investment or through the further socialization of the electric industry by governmental subsidies and preferences.

Pretext for Socialization

The cry of power shortage is frequently used, like other perennial false alarms, by those whose chief interest is not in preventing a power shortage but in socializing the power industry. This socialistic endeavor is of long standing. It did not begin with the New Deal in 1933 nor did it end with a change of national administrations in 1952. The advocates of socialization have insinuated themselves to some extent into both major political parties just as they have invaded most of the other organizations and institutions of our society. Hence the threat of governmental encroachment continues for our industry regardless of which party is in power. An understanding of this fact is important if our industry is to remain ever alert and not get caught with its "guard down."

Recent Inroads

While the present Administration undoubtedly has a friendly and sympathetic concern for the problems of business generally, nevertheless even in this Administration, and centainly in the Congress, there are still politicians afflicted with the characteristic timidity of officeholders who try to be all things to all men and who consequently come close to being nothing to anybody. As a result, I must in candor report that socialized power has made some further inroads during the past three years.

I will give a few examples:

1. Within the past few weeks a Senate Public Works Committee has approved the Lehman plan for the development of Niagara Falls by the State of New York, rejecting an alternative bill for development by a group of investor-owned electric companies. If ever a project was purely a power development, this one is it. Here private enterprise has offered to fully develop the waterway, pay all local and Federal taxes, supply construction funds through the voluntary purchase of securities by investors, and make the power generated at the project available to customers throughout the entire service area of the five companies *without favor or discrimination.* The proposed development by the state, on the other hand, would create tax immunities and exemptions, require the appropriation of tax funds, and establish discrimination through the operation of a so-called preference clause. Given such a choice the Senate Committee voted for state development of Niagara Falls. This was a most disturbing decision.

I realize that it is inappropriate to hold the Administration responsible for the action of a Senate committee controlled by the opposing political party. So far as I know, however, the Administration has not raised a voice in support of its avowed principles in this controversy, and at least some persons very close to the Administration, in advisory if not in policy-mak-

ing roles, are reported to favor the state development.

2. The most conspicuous instance of political timidity, it seems to me, is the position lately taken by the government in the Dixon-Yates fiasco. I will not belabor an issue with which you are familiar. However, it should be remembered that officials of the government initiated the proposal, participated in the negotiation and drafting of the contract, and minutely examined every detail of the transaction. They defended it for some 19 months and then abandoned and repudiated the contract in the face of political attack by partisans of socialized power. They abandoned it even though the preceding Administration had executed two similar contracts with electric companies which were not as advantageous to the government. In a recent editorial, the *Saturday Evening Post* referred to the Dixon-Yates controversy as a "smoke screen" and as "an eleborate and complicated facade to conceal the expansionist ambitions of TVA and public power everywhere. The real crime in the Dixon-Yates deal," the *Post* declared, "was that it threatened to curtail the effort to socialize electric power in the United States. A privately-operated steam plant at the edge of the TVA empire was not to be tolerated."

"Therefore," the editorialist observed, "the Dixon-Yates contract had to be killed and a hundred smears poured upon men whose offense was an enthusiasm for the Eisenhower Administration's effort to check the gallop toward socialism."

3. The "partnership program," which has for its purpose the preservation of local initiative and local responsibility in the provision of electric power facilities, has also been permitted to drag. Clarence A. Davis, Under-Secretary of the Interior, in an address last October 28 said: "Shall we put upon the back of the Federal taxpayer the burden of raising $300 to $500 million per year for construction of Federal hydro-electric projects when local interests, municipalities, power districts, and private electric companies stand ready with the money to do the same thing? We must remember that every process and every operation that is kept and operated by the government simply displaces that many individual opportunities for citizens and their savings to explore and develop."

In contrast to Mr. Davis' forthright and constructive statement, the efforts to implement the partnership program have met with little more than procrastination and delay.

4. More damaging than all the others, however, was the recent opinion of Attorney General Brownell which, if adhered to, would give the co-ops and other so-called "preference" customers a virtual monopoly in Federally-generated power. This opinion went beyond anything the New Dealers and Fair Dealers ever conjured up. The opinion was rendered in the long drawn-out Clark Hill negotiations which still remain incomplete and inconclusive after nearly eight years of pulling and hauling, despite the fact that the Georgia Power Co. has agreed to four separate types of contracts and has consented to scores of costly demands by the government and the preference customers.

Without going into detail, I should also mention the proposals for the financing and construction of atomic power plants by the government and for sale of the output of these plants to subsidized power groups under an expanded preference clause; and the proposals for financing the Tennessee Valley Authority and the Rural Electrification Administration through the sale of bonds or other securities, enhanced in value by prior appropriations of tax funds, so as to effectively nullify Congressional control of their fiscal policies. While these proposals have not been adopted, nevertheless there is evidence of sufficient support for them in both parties to create a disturbing threat to our industry.

Favorable Developments

I do not overlook a number of favorable developments such as the recent impressive vote in Stevens County, Washington, where the voters, given a clear-cut choice between government-subsidized and free enterprise electric power, voted over 70 per cent for the latter; nor FPC's approval of a license for the development of the Hell's Canyon site by the Idaho Power Co.; nor the licensing of an extensive development of the Coosa River by the Alabama Power Co. But, the danger is that while "counting our blessings" in these few instances, we may minimize the threats that confront us from a dozen directions.

It is a strange thing that an industry which has never failed to meet its public obligations, which has held its prices down in the face of rising costs on every hand, which supplies one of the most essential services in our modern civilization, which strives constantly to improve the quality and the efficiency of its product, which provides its employes with excellent working conditions at high rates of pay, which contributes more than a billion dollars a year in Federal taxes alone, should nevertheless be subject to such constant political attack.

The truth of the matter is that the electric industry is holding the ramparts against the encroachments of socialism aimed at all American business. Admiral Ben Moreell, whom I have previously quoted, has declared that: "Technically and financially there is no present or prospective need for Federal public power," but "it is just as true today as it was a century and a half ago that the condition under which God has given liberty to men is eternal vigilance. Whether the demagogues advocating public power are or are not socialists is not important. *What is important is that the price we pay for public power must be measured by the advance of socialism in our midst and our concurrent loss of liberty.*"

Vepco Plant Dedication at Roanoke Rapids

MORE than 3,000 persons attended the formal dedication at Roanoke Rapids, N. C., on April 4, 1956, of the $32,000,000 hydroelectric development of Virginia Electric and Power Co. on the Roanoke River.

A license to build the dam had been obtained by a decision of the United States Supreme Court following more than four years of litigation. The dam was constructed only after a prolonged fight with the Department of Interior which had pre-empted the site.

The Roanoke Rapids hydro plant is capable of generating 100,000 kilowatts of electricity. Tied into Vepco's high voltage transmission system, the development is the company's first sizable project using water to produce electricity.

It is Vepco's ninth major generating plant, and brings the system kilowatt capacity to more than 250,000.

Regulation Is a Living Thing

By H. Lester Hooker

Commissioner, Commonwealth of Virginia, State Corporation Commission

An address before the AGA-EEI National Conference of Electric and Gas Utility Accountants, New York, N. Y., April 16, 1956

THE expansion of the utility industry has been phenomenal and yet there is continual increasing demand for further expansion to meet the essential requirements of the needs of the public. Never in our history has there been such a demand for electric energy and the industry is meeting this demand in a most magnificent manner. This progress, in my opinion, shows that regulation has been very beneficial to the utility business. It shows that regulation is flexible—as conditions change, regulation changes. It is like the Constitution; "it is a living thing." Regulation is not static; there is no rule of thumb method or set formula that is not subject to change. It must change as conditions change. If regulation did not change to meet the inflationary conditions that have been and are now existing, and likely to exist for some time to come, regulation would not be operating in the public interest. It would become static and disappear, in my opinion.

Effects of 1954 Code

I am glad to have this opportunity to discuss with you some of the effects and problems resulting from the liberalized depreciation provisions of the 1954 Internal Revenue Code. Much has already been said on this subject. By now it has become pretty generally known that Section 167 of the 1954 Revenue Code contains entirely new depreciation provisions. These new regulations provide for rapid tax depreciation on the "declining balance" and "sum-of-the-digit" methods or other consistent methods for facilities constructed (or acquired new) after December 31, 1953.

During the months which have elapsed since Section 167 became effective, many questions have been raised and much argument has taken place in both the utility and regulatory fields. It looks like just about everybody has gotten in on these lively discussions—lawyers, economists, engineers, and accountants. Indeed, I understand that the utilities themselves do not all have the same viewpoint. What are some of the arguments? What are the economic effects to the utility electing to use rapid tax depreciation? What are the effects on the consumers? On financing? On rate-making problems? Different people have different answers to these and similar questions. I want to come back to them later, but it would be helpful first to review and examine the intent of Congress in changing the Code so as to provide for accelerated or rapid depreciation.

Purpose of Revision

Congress has said that the primary purpose of the revision in the tax code is to bring depreciation tax allowances in conformity with the economic facts of depreciation and in this manner remove some of the risks inherent in business investment. In removing some of the risks greater replacement of obsolete equipment and plant would be encouraged which, of course, is good for the economy of the nation.

The report of the Committee on Ways and Means which accompanied H.R. 8300 said that "Under long-run peace-time conditions, in the absence of the inflationary pressures existing in the forced draft economy of the postwar period, present tax depreciation methods might depress business capital expenditures below the level needed to keep the economy operating at high levels of out-put and employment." Again quoting from the report, the House Committee said this: "More liberal depreciation allowances are anticipated to have far-reaching economic effect. The incentives resulting from the changes are well timed to help maintain the present high level of investment in plant and equipment. The acceleration in the speed of the tax-free recovery of costs is of critical importance in the decision of management to incur risk. The faster tax write-off would increase available working capital and materially aid growing business in the financing of their expansion. For all segments of the American economy, liberalized depreciation policies should assist modernization and expansion of industrial capacity, with resulting economic growth, increased production, and higher standard of living."

The revisions with respect to depreciation were based on what the Congressional Committee considered to be sound depreciation principles—that is, that plant suffers its heaviest use and loss of economic usefulness in the early years of service life. The report also said "the proposed system conforms to sound accounting principles." Thus it is clear that the Committee felt that the new provisions would not only ". . . give the economy added stimulus and resilience," but that they conformed with sound accounting and depreciation principles.

In this respect "rapid depreciation" differs in principle from "accelerated amortization" provisions of Section 124-A of the old Code (continued as Section 168 of the new Code). Accelerated amortization for tax purposes of certain properties classified as "emergency facilities" was provided by Congress during World War II and similar provisions were made in 1950. Accelerated amortization was related to financing of defense facilities during a time of national emergency, and allowed an arbitrary rate of 20 per cent per annum, entirely unrelated to sound depreciation rates or principles. Because there is a definite kinship between the two, many appear to think they are identical.

Principal Difference Summarized

It might be of interest to summarize the principal difference between "Liberalized Depreciation" provided by Section 167 of the Code and "Accelerated Amortization" provided by Section 124-A of the old Code.

"Rapid" (or so-called "liberalized") depreciation provides for depreciation deductions extending over the *entire life* expectancy of *all tangible property additions* after January 1, 1954. The deductions would be substantially larger in the earlier years, the degree depending on the method used. The

law is permanent and affects *every tax payer* constructing depreciable property after January 1, 1954.

"Accelerated amortization" provided for depreciation deductions so as to completely write off the property irrespective of its actual service life in a five-year period. It was temporary in nature and could be used only for certain certified facilities, and only then by a relatively small number of tax payers, principally the larger corporations.

Difference in Deferral Time

But perhaps the principal difference between the two provisions is the greater period of time over which Federal income taxes are deferred under rapid depreciation. Because of the long life of property this is particularly important to the utilities, since this results in a substantially longer time of higher annual deductions for depreciation and consequently a longer period of reduced annual taxes. That is, the taxes are deferred much longer under rapid depreciation. To sum up these comparisons, I would say that, while "rapid depreciation" differs in several instances from "accelerated amortization," they resemble each other in that apparently it was the intention of Congress in both cases that the corporations should have the benefit of the use of the deferred taxes.

Benefits to Corporation

Now, let us look at these benefits to the corporations. By increasing depreciation deductions for tax purposes in the early years of the life of new property, it defers to later years, payment of income taxes which, under the straight-line method of depreciation, would be payable in the early years. In some instances the amounts will be very substantial. The taxes, thus deferred, would provide money which is needed for plant expansion. When it is considered that such capital is interest-free, it is apparent that the corporation receives an economic gain.

Only a rough approximation of the amount involved is possible at this time. According to statistics the electric utility industry during the last five years or so, has added on the average about $2 billion of net plant each year. Under the straight-line method, the depreciation on annual additions of $2 billion for five years, at an average rate of 2.2 per cent would aggregate about $660 million. Under the "sum-of-digits" method (one of the methods permitted under the new law) the charge would be approximately $1,265 million. The so-called tax savings at 52 per cent on the difference of $605 million would be approximately $315 million. Under the "declining-balance" method the so-called tax savings would be somewhat less. These savings would be available to the utility for construction purposes or other legitimate purposes (except perhaps for payment of dividends) under the deferment plan. This would mean that the need for additional common stock financing would be reduced by the amount of the accumulated tax deferrals.

Reasons for Uncertainties

Many of the arguments and uncertainties which exist on this whole problem arise because of the difference between regulated and non-regulated industry. The non-regulated company can easily take advantage of the liberalized depreciation provisions and increase its earnings through tax deductions. And it can invest its increased earnings back into the business. Any tax reduction would thus provide capital which might not otherwise have been available.

In the case of a regulated utility company the matter is not so simple. The reason for this is that among regulatory commission people there may be differences of opinion as to what should be done with any tax reductions resulting from accelerated depreciation provisions. Some may feel that such tax reductions should immediately be passed on to consumers, while others may agree that it was the intent of Congress that the reductions should be retained by the company for use in the expansion of its plant and facilities in order to stimulate the national economy. At this point, it is significant to note that there is nothing in the tax law or in the reports of the House and Senate Committees which indicates that it was intended for some industries but not for others. It is quite clear that any company, including the regulated utility company, may take full advantage of the accelerated depreciation provisions.

Deferral or Savings

A question before both the utilities and the Commissions is whether the use of rapid depreciation results in merely a tax "deferral" or a permanent tax "savings." If a single item of property is taken as an example, it can be shown that the provisions result in a tax deferral. Thus, if a company owned only a single unit of property costing $1,000 and a service life of ten years, the straight-line method would result in depreciation allowance of $100 per year for each of its ten years of life. Under the sum-of-the-digits method depreciation would range from about $180 in the first year to about $18 in the tenth year. It is obvious that the amount of taxes paid will be considerably less during the first years by following the accelerated method than by following the straight-line method, and more in the last year, although if tax rates remain constant, the total taxes paid over the ten-year period would be the same. Using this simple example, there would be no *tax saving*, but merely a deferral.

Determination Complex

However, because of the continuous expansion of regulated utilities from year to year the determination of whether the use of rapid depreciation results in a deferral or whether it constitutes a real saving is much more complex than this simple example. The principal assumption taken by those who allege the application of the rapid methods results in a saving is that a utility makes the same or even increasing dollar investments in new property each year, and that the new property has the same composite life expectancy. Thus, the total amount of depreciation under the accelerated plan would never fall below the total amount of depreciation under the straight-line method, and assuming no change in the tax rate, *tax reductions* obtained would *never* be offset by future *tax increases* and there would be a permanent tax saving.

Many accountants, and others who have studied this problem seem to fear that to characterize depreciation as a deferred liability might result in a Commission so treating the deferred liability in rate regulations as to become a windfall to the utility. I believe such fear is unfounded because regulatory processes will be fully competent to handle properly, in the public interest and fairness to the utility, a reserve or surplus resulting from the deferral of income taxes.

At a meeting last spring of the Mountain-Pacific States Conference of Public Service Commissions meeting

in Reno, Nevada, this matter came up for study and consideration. It was pointed out that it is not logical to look at a single item without relating it to the whole. Likewise, it was indicated that it was not certain that there will be continual additions each year of the same or larger amounts. It was said that both "tax deferral" and "tax savings" concepts are subject to legitimate criticism.

Committee Reports

But two committee reports presented at the National Association of Railroad and Utilities Commissioners' Convention at Asheville in October of last year said that the present law results in tax reductions, and not tax deferral. The Association's Committee on Accounts and Statistics issued a report in which the conclusion was reached that the reduction in taxes resulting from liberalized depreciation should properly be considered as tax "savings" rather than tax "deferrals" for accounting purposes and that there should be no deferred credit account. Although this report was limited to the accounting aspect of the matter, it included certain suggestions or recommendations as to possible alternative treatment of the tax reduction for rate purposes.

The Association's Depreciation Committee Report recommended that the increased depreciation accruals should be reported in the accounts and stated: "In this way there will be a balancing of interests in that the customer will pay more for depreciation expenses but in return will realize an equivalent credit in the rate base." The report stated that there may be instances where it could be reasonable to base the amount of additional depreciation charged upon the tax reduction effected through the new liberalized provisions.

Reports Tabled

Since these reports were so controversial in nature and in view of the fact that several State Commissions had already taken the position for accounting purposes, that tax reductions from liberalized depreciation, during the early years of the life of plant, is only a form of tax deferral and not a tax saving, both committee reports were tabled and referred to the Executive Committee of the National Association of Railroad and Utilities Commissioners.

The State Commissions which have acted as to rapid depreciation have been almost unanimous in treating the tax reductions from this source as "deferrals" for accounting purposes. In my own State of Virginia this view was taken and an order prescribing the accounting to be followed was issued to Appalachian Electric Power Co., in June, 1955. Another order, prescribing the same accounting treatment, was issued by the Virginia Commission in December, 1955, to an independent telephone company of the General Telephone System. My information is that to date some 14 or 15 State Commissions have acted, and that with one exception, have provided for tax deductions as "deferrals" either by accumulating the deferred credits as Reserve or Surplus. Although these Commissions appear to be in agreement as to the fundamental principle of "deferral" and consequently as to the need of a provision for deferred taxes, to be charged to income, they have differed as to the accounts to which such provision for future taxes should be credited. Nine Commission orders favored crediting surplus (usually restricted as to payment of dividends) and seven orders favored some form of a reserve account.

Wisconsin Commission Order

The Wisconsin Commission issued an order on January 27, 1956, which provides that the applicant utility involved charge as *additional depreciation* the amount of tax reduction resulting from the application of the sum-of-the-digit method of 1955 and subsequent property additions for Federal income tax purposes. In other words, book depreciation will be continued on the straight-line method. The 1955 and subsequent property additions, for tax purposes only, will be computed on one of the new methods. The depreciation expense so computed will be greater than the amount computed on the straight-line rate. The additional tax depreciation allowance will reduce Federal income taxes. The utility proposed to charge in its accounts as depreciation expenses (in addition to depreciation at the straight-line rates), an amount equal to such tax reduction. The order states that the company would have the cash benefit from the tax reduction and the customer would receive the benefits from a lower rate base.

As to the Federal Commissions, it is my understanding that the Federal Communications Commission has taken no official action in the matter of rapid depreciation in the telephone field and I don't believe any applications for accounting or rate-making purposes by the Bell System have been filed.

Presiding Examiner's Ruling

The Presiding Examiner of the Federal Power Commission has ruled that natural gas companies which elect to use the liberalized depreciation methods allowed under 1954 revisions to the Internal Revenue Code may do so but should be required to account for and report to the Federal Power Commission the amounts accumulated for Federal income tax purposes. (Docket No. G-6358.) The ruling was contained in a decision issued by Examiner Marsh in a proceeding arising from a petition filed by nine Columbia Gas System subsidiaries requesting a declaratory order relating to the methods of depreciation permitted by Section 167 of the Internal Revenue Code of 1954. The Columbia Gas companies did not request a determination as to the ultimate treatment of the reserve for deferred taxes for rate purposes. This would have involved a ruling as to whether they will be entitled to earn a return on the plant which may be constructed or acquired with funds derived from deferred taxes. The examiner concluded that the Federal Power Commissions' Uniform System of Accounts and its Annual Report Form No. 2 should be amended to provide for accounting and reporting of the Federal income taxes resulting from liberalized depreciation. He also ruled that natural gas companies which propose to use the liberalized methods should notify the Federal Power Commission of their intent to do so, and should be required to maintain subsidiary accounts necessary to permit identification of the annual additions to plant and the amounts accumulated as tax reserves applicable to these additions.

Oklahoma Commission Order

The orders issued on the rapid depreciation by State Commissions have been mostly accounting orders. However, the Oklahoma Commission in its order issued to a natural gas company in June, 1955, ruled specifically on the rate-making effect of rapid depreciation of the 1954 Code. The order said,

among other things, "the Earnings of the Company for rate determination purposes (rate base and rate making) shall be computed on the basis of normal depreciation and any tax savings effected by the application of accelerated depreciation or amortization of emergency facilities shall not be included in such rate determination computations."

I would not want to try to predict the action of those Commissions which have not yet issued orders on this matter of depreciation but I hope they will act without too much delay because until all the regulatory commissions have indicated their views there will continue to be a degree of uncertainty among the utility people as to whether or not they will obtain the benefits of the new tax depreciation, as certainly Congress intended.

Virginia Commission Order

In the order which the Virginia Commission issued last year, approval of the deferred tax concept was given for accounting purposes only. The company's application for accounting was approved because it appears that the effect of using liberalized methods of depreciation is to deduct larger amounts during the earlier years and lower amounts during the later years than would be deducted under the straight-line method. This results merely in reduction in income taxes payable during the earlier years of the life of property and a corresponding proportionate increase in income taxes during the later years. If this is so, the provisions of the new Code do not operate as a "tax saving" device, but simply result in the deferral of payment of the tax from earlier to later years. This was recognized by the House Committee on Ways and Means, which stated in its report concerning the new Code that "the changes made by your Committee's Bill merely affect the timing and not the ultimate amount of depreciation deductions with respect to property."

Impact on Rate-Making

Nothing was contained in the Virginia Commission's order about the impact of the special accounting treatment on rate-making. We left this matter open, as I think we should, when we said: "That the authority herein granted is subject to the express condition that the approval granted herein does not bind this Commission as to any matter involved herein in any rate proceeding or any other proceeding before this Commission . . . and further the Commission reserves the right to change, modify or cancel such authority at any time. . . ." No Commission likes to be indefinitely bound on matters as far-reaching as this.

Now to account for rapid depreciation and the related income tax effect and how to treat these deductions in rate-making are problems which will have to be faced by regulatory commissions. As I have said, this matter was left open in the order issued in Virginia. Frankly, I could not tell today what my associate Commissioners or I would decide in a future rate proceeding. We rarely issue declaratory orders, and have issued none on the rate-making aspect of using rapid depreciation for tax purposes.

It is my opinion that Section 167 of the Internal Revenue Code was enacted by the Congress to assist utilities and other businesses in their expansion and financial problems and that any decisions to the contrary are not in accord with the plain and intended meaning to be applied to Section 167 of the Internal Revenue Code. Such a conclusion is not beneficial to utilities, and whatever is harmful to the utilities is harmful to the public served by the utilities.

Duty of Commissions

It is the duty of the regulatory commissions to exert their best efforts to keep all utilities at all times in a sound financial condition. This is essential in order for them to expand their business so that they can adequately meet the demands for service required by the public. The interest of the public is being retarded and governmental efficiency is deteriorating for the reason that some of those holding positions of responsibility are giving more time and thought to political expediency than they are devoting to the performance of their public obligation. They appear to be more interested in being retained in office than they are in the proper administration of the duties of that office. Obligations of government seem to be of minor importance. What, apparently, is important in their minds is, what may be done or what promises may be made that will keep them on the taxpayers' payroll. They are not too much concerned about the solvency of the taxpayer or the financial soundness of government.

I wish to say, in conclusion, that this complex and uncertain way of life in which we find ourselves requires a rededication to our respective duties and obligations as good citizens. Both at home and abroad the republic is beset with exceedingly difficult problems. Our way of life is being attacked from within and from without. The right to administer our local affairs may be in jeopardy.

To solve these problems correctly calls for the best that the nation has in honest, intelligent and courageous leadership. The need for intelligent and unselfish service was never greater than it is today. We are living in an age of ever-widening scope and ever-quickening pace. As the mechanism of life and government becomes more complex, men of trained minds are needed to plan, design, build, and operate the vast machinery that serves our wants and our wishes, and each of you have a vital interest in the proper operation of this vast machinery.

Frank J. Gleeson Wins Labor Relations Award

FRANK J. GLEESON, Director of Personnel for Northern States Power Co. has been named as the management recipient of the Minneapolis Junior Chamber of Commerce's first annual Labor Relations Awards.

The Awards, one to a member of management and one to a member of labor, are given by the Jaycee's Labor Relations Committee "for an outstanding job in promoting good labor relations in the community." Members of labor nominated the management candidates for the award, and members of management nominated the labor candidates. A group of neutral experts in the field of labor relations made the final selection of the winners.

Mr. Gleeson joined Northern States power in 1929 as managing editor of the company's employee publication, "Our Shield." His duties since then have included work in accident prevention and the positions of employment manager, employee sales contest manager, director of athletics and recreational activities, and assistant director of personnel. He is a charter member of the EEI Industrial Relations Committee.

Who Benefits from Automation?

By Gwilym A. Price

Chairman and President, Westinghouse Electric Corporation

An address before the 22nd Annual EEI Sales Conference, Chicago, Illinois, March 29, 1956

I HAVE looked forward with very special pleasure to this meeting. This is the first opportunity in many months I have had to talk to a national audience of utility people, and it allows me to say something that is very much on my mind.

As you know, the Westinghouse Electric Corp. had some difficult and painful labor troubles. We have now come safely through those troubles and are pulling together, not only to recover lost ground but to shoot ahead of where we would have been if we hadn't had the troubles. We are gaining fast.

During these difficult months, the electric utility industry—I should say, the *people* of that industry—were marvellously cooperative, sympathetic, and patient. You gave us all we could have hoped for—and a good deal more besides. I should like at this time to make a formal expression of thanks and appreciation to you, and through you to the entire electrical utility industry. We are very grateful.

My assigned topic today concerns the manufacturing technique we have come to know as "automation"—its significance to industry, and particularly to the electrical industry.

Defining Automation

You know, of course, that there is considerable disagreement on just what the word means, and that there are at least 56 definitions of it. The definitions are all good, and they vary from "continuous automatic production" to "use of automatic handling and automatic control to replace manual handling and control in manufacturing." You may know, too, that you have to learn not only a new language of automation to be at home with it, but also an unusual form of algebra to design some of its machines.

On one point, however, we can all agree: it is a *big* subject. It is so big that it reminds me of a teen-age boy in my neighborhood who delivered his high school's commencement oration. He talked on the subject, "The Past—The Present—and The Future." The young man may have taken in more territory than the word *automation* does, but I doubt it.

My purpose in coming here on this last day of your conference and talking on automation is to ask you and your association to adopt a policy and take an action. Perhaps I should follow custom and place this request at the end of the speech, working up to it gradually. Instead I want to come directly to the point and state it now.

I put it to you

—that automation desperately needs interpreters and defenders;

—that no other single American industry is so well fitted to assume this responsibility as the electrical industry;

—and that no segment of the electrical industry is better able to fill the role of spokesman for automation than the men in this audience.

I propose, in short, that the electrical industry stop being a cheerleader for automation and become its quarterback. I propose that our industry work openly to promote automation, to answer those who misrepresent it, and to explain its benefits patiently and ceaselessly to those who stand to gain the most from it—the American people. I propose that every electrical utility sales-manager make himself the personal authority on automation in his community.

Reasons for Need

Now, there are several reasons why this needs to be done, and I will come to them in a moment. First, I should like to take up the reasons why, in my opinion, it is the electrical industry that should properly spearhead this work for all industry.

No other American enterprise is so deeply and at the same time so variously involved in automation as ours. Since the emphasis of automation is on electrical control, we will have an increasingly important part to play.

As electrical manufacturers, we use the techniques of automation in many of our plants. To cite only one illustration, my own company last April installed a huge transfer machine in the new plant of our Air Conditioning Division at Staunton, Va. In appearance it is much like those that have been recently publicized in the automotive industry. It cost us a half million dollars and we estimate that it will have paid for itself by May 15th of this year.

As manufacturers, we also build and sell the tools of automation. Westinghouse, for example, produces such a device in Cypak, which is our trade name for "packaged cybernetics." I can tell you that Cypak performs five basic functions of logical deduction listed as *And, Or, Not, Memory,* and *Time Delay;* and that it does this with elements which are completely static instead of through conventional relays, which are complex, hard to maintain, and comparatively slow. Beyond this, the concept becomes complicated and, believe me, I am not the person to explain it to you. In fact, we have set up schools to teach users the new engineering concepts involved in Cypak. A typical recent installation is one in the Ford Transmission Plant at Cincinnati, where Cypak controls the form grinder for grinding transmission parts.

Intimate Association

Finally, as manufacturers, we are intimately associated with other makers of automation machinery in that we use their machines in installations we engineer for other industries. For example, Westinghouse has specialized for many years in engineering the electrical equipment for high-speed steel production. We recently received an order for a card programming automatic control system for a reversing mill for the Jones & Laughlin Steel Corp. Punched cards will be fed into an IBM machine, and billets will be produced in sequence according to exact specification, 24 hours a day.

The electric utilities, that other great segment of the electrical industry, are also served by automation. Like the manufacturers, they are served both as producers and users, as sellers and buyers.

Your industry, of course, was a pioneer in the development and use of automation, though you have never publicized this work. The modern power station is not only a prime ex-

ample of control engineering in use, but also a constantly improving one. A few companies are now installing computers which can figure out power loss in an entire system in a matter of seconds and in that time perhaps save the needless consumption of several hundred dollars worth of coal. We will soon install such a Westinghouse computer for the West Penn Power Co.

With the help of such continuous improvements, your industry now produces five times as much power as it did 25 years ago. You have done this with only about 15 per cent more workers, and thus you have been able to hold the price line on kilowatthours. The electric utility industry, in fact, probably processes more product with fewer people than any other industry.

Producing Fast-Growing Market

On the other hand, automation is also producing a fast-growing market for the utility. I should like to take a moment to look at the size and nature of that market.

It is quite true that the devices that make continuous automatic production possible do not in themselves build heavy loads. Cypak, for instance, use considerably less power than industrial air conditioning. Does it follow that you should instruct your power salesmen to emphasize air conditioners rather than automatic processing? I think not.

The point is that automation *will* build loads for the utility, because the many products of the automated factory are load-building. Refrigerators, air conditioners, television sets, toasters and other electrical appliances are all ready for the truly automated production line. The market for them is large. They demand quality manufacture. Their production cost is such as to give the manufacturer real incentives to devise ways and means to make them more efficiently and to sell more of them more cheaply.

Heat Pump Use

Widespread use of the heat pump will probably date from that year in which automation begins its beneficent cycle. Continuous automatic production will lower the cost of each unit to the manufacturer and to the consumer. Lowered costs will build a market by making the equipment available to the average home. Revenues from increased sales will enable the manufacturer to invest in even better production equipment in order to improve efficiency further, and so on. As the market expands, of course, so does your power load.

Let us look again at that Staunton plant of ours I mentioned a few moments ago. The new transfer machine there represents only 300 horsepower of installed capacity. But the products this transfer machine makes are compressor blocks used in home air conditioners and heat pumps. That machine is turning out 1200 horsepower of power-consuming equipment per day.

Moreover, while the devices that make automation possible do not in themselves build heavy loads, the production lines that are automated will take advantage of volume production to add equipment that *is* a large user of kilowatts, such as electric furnaces.

Two-Fold Incentive

I would say that you, as sales managers, have a two-fold incentive to push automation in your contacts with manufacturers in your area. One incentive lies in the obligation your profession accepted years ago to help your customers improve their operations so they may remain competitive—and remain your customers. The other incentive is the fact that through automation you will sell more power.

However, the problem right now is not so much to sell the machinery of automation as to sell the idea of automation. Up to now we have not done a very good job of that.

Wide Misunderstanding

Automation is widely misunderstood. Opinions are held about it which were formed on the basis of concepts and attitudes that are a quarter of a century out of date, and which were wrong when they were new. To too many of our people, automation spells unemployment instead of opportunity, dislocation instead of new jobs, retrogression instead of progress. A poll in one industrial city revealed that those questioned feared automation only second to Russia. Another poll showed that nearly three-fourths of our working population interpret automation in terms of unemployment and layoffs. The response, of course, was entirely different when the questioner substituted the words "technical progress" or "improved machines" for "automation."

Thus we find ourselves in the rather ridiculous position of having to defend a manufacturing technique that is not only logical and beneficial, but absolutely essential to the growth of our economy and the survival of our country.

I will digress just a moment to set straight an assumption that apparently is rather widely held about the Westinghouse strike. That strike has been called "the first labor dispute over automation." It was, of course, nothing of the sort. The plants chiefly concerned produce heavy electrical equipment. You may find products that lend themselves less to automation than power transformers, generators, turbines, and large circuit breakers, but you would have to do some looking.

Industry Reluctance

One reason that automation is so widely misunderstood is that industry has been reluctant to defend or explain the term. In the words of *Business Week*, "Management is on the fence. Most executives refuse to be quoted on the subject except in highly legalistic terms. They are afraid of possible repercussions. When management does speak out, it is usually to pour oil on troubled waters."

Now if we were back at the dawn of the industrial revolution, we perhaps would have reason to fear the effects of new powered machinery, simply because those effects would be unknown. But this is not the Eighteenth Century—it is 1956. We have had ample time and, in that time, plenty of evidence, on which to base some sound and mature conclusions on the probable future effects of new machines and methods on human life.

I have a few conclusions of my own I should like to offer you in the hope that they may prove useful if you accept my plea that you make yourselves the spokesmen for automation in your community. Most of these points have been made before, but I will not apologize for that. When not enough people believe a truth, we cannot repeat it too often.

One More Fresh Step

First, it cannot be stated too emphatically that automation is simply one more fresh step in the long history of this country's industrial development. The roots of automation go deep, back at least as far as the development of interchangeable parts. Automation existed in fact, if not as

a word, in the 1920's. The line between mechanization and automation is still drawn so finely that even the experts cannot agree on where the one ends and the other begins.

Whatever we call it, and whenever it began, one thing is clear—the chief beneficiaries of automation are the American people. We see the proof of that everywhere around us. Thanks to our industrial technology, we are still the world's major industrial power. We have substantially shortened our work week in the past 15 years, and at the same time have raised our individual standard of living by very nearly one third. Labor has been upgraded. We have 63 million people at work, almost 17 million of them in industry. We have accomplished this largely through investment of tremendous sums of capital in new plants, machines, equipment, and methods. But have the companies making this investment profited by it? Well, it is generally known that top management salaries are far lower than they were 20 and 30 years ago. Net profits have stabilized over the past quarter-century at an average of 3.5 per cent of net sales; they were 3.3 per cent for the year 1954. The share of the national income going to stockholders has been decreasing, while the percentage going to employees has been going up.

Improving Industrial Efficiency

In the decades ahead, management will work as hard as it knows how to improve our industrial efficiency. It will struggle to raise the capital it needs for installing the machines of continuous automatic production. Management is on a competitive merry-go-round and knows that it must do this in order to offset rising costs, increase efficiency, meet the competition and stay in business. But it is the employee and the customer who will profit most from the investment. New jobs and industries will be created, working conditions will be improved. Unit prices will be lowered and quality and service bettered. But the over-all rate of industrial profit will still remain pretty much the same. In our free market economy, it has to.

Americans, more than any other of the world's peoples, have realized that they benefit from increased productivity. Our national attitude is well expressed in the story—told by a Frenchman—of how the typical American pedestrian and the typical French pedestrian look upon a millionaire going past in his Cadillac. The American looks forward to the day when he will be driving one himself. The Frenchman dreams of the day when he will get the millionaire out of his car and make him walk like everyone else.

Gradual, Natural Change

My *second* conclusion is that the change to automated production in any industry will be gradual and natural, as it has been in the past. For one thing, there is a constant heavy drag of existing capital equipment. Automation costs prodigious sums of money, and you do not lightly scrap a huge investment in the machines you already have.

There is the fact, moreover, that we simply do not know enough to convert American industry to automation. It has been estimated that if we applied everything we now know to automate our factories, in a crash program and regardless of cost, only about eight per cent of the labor force would be directly affected by displacement, down-grading or up-grading.

We must conclude from this that there will be no sudden shift of workers—no masses of people thrown out of work by automation. Where labor is displaced, it will be absorbed. In many cases it will be absorbed into the expanded operations of the company itself, in the same skills and at the same factory. In other cases it will be in new or related industries.

Jobs in the Short Run

I do not mean that these new jobs will be made in the long run, at some far off future date. On the contrary, they are being made now, in the *short* run. Automation is obviously making new jobs far faster than it is displacing old jobs and old skills. I think we make a mistake when we allow the long-range job benefits of automation to be emphasized and do not stress the immediate job benefits. The immediate benefits are very real. The new and fast growing electronics industry, for example, has absorbed tremendous numbers. More than 1,000 companies are now making automation equipment. They made about $3½ billion worth of it last year.

Let us look at that Staunton plant of ours once more. The transfer machine there is operated only by two men. But there are 500 employees in that plant, and 18 months ago there were none. That plant exists because there is a demand for the product, and there is a demand for the product because it can be made cheaply and efficiently—by automation.

Until now, machines have been geared to the speed of the human operator. In giving the machine a moderate amount of elementary judgment, we free it from that handicap. We save time and we increase output. We made a more uniform product with more accuracy and less waste, at a lower price. The work is safer and easier. Bottlenecks are broken that make plant expansion possible, resulting in more goods at lower prices and more jobs at higher wages. In data processing, management is able to learn facts about its operations which it never could know before, or could not know in time for the information to be of any use.

To fear the steps that produce industrial efficiency is to fear America itself.

Facing Labor Shortage

My *third* conclusion is that, with or without automation, this country faces a serious labor shortage in the coming decades rather than a labor surplus.

The statistics on this point are both voluminous and convincing. The generally accepted estimate is that our labor force will increase about 13 per cent in the next ten years, but that the demand for goods will go up by at least 40 per cent. Simply to keep on expanding our economy at the current rate will require many more millions of workers than we are likely to have around. One of the foundations, for instance, has estimated that in order to make up our present shortage of teachers, we would have to absorb one half of our college graduating classes into teaching each year for ten years. We are already short about 75,000 technicians and 25,000 engineers each year, and this will get worse before it gets better.

Freeing for Production

There is only one way we can possibly free the men and women we will need over the next ten and 20 years for productive work—men and women to build the products and the machines, to create and staff entire new industries and new services, to double and re-double our supply of electrical power. That way is by making the

fullest possible use of the machines and techniques of automation.

Certainly if we are to meet and offset the heavy demands that organized labor will make on the industrial economy in the years ahead, we will need the full cooperation of its leaders in taking the steps necessary to achieve maximum industrial efficiency.

No Choice in Matter

The *final* point I would make is simply that we have no choice in this matter. If we are going to survive and prosper in this second half of the Twentieth Century, we will have to progress further into automation.

We are not the only great national power in the world, and we have no permanent franchise on the Number One industrial position. Other nations will certainly rely on automation and will do so with very little regard for actions or opinions.

Most of those nations are friendly, and if they achieve a higher degree of automatic production on certain products than we do, coupled with their far lower wage rates, it simply means that we lose our world markets on those products. That would not be pleasant, but it would not be fatal.

The world's second-ranking industrial power, however, controlling about one-third of the world's population, is not friendly. If Russia automates faster and better than we do, the result *will* be fatal. We are engaged in a struggle for survival with that nation in which for us, second place means extinction as a free nation.

We must never forget, moreover, that the techniques of automation require time and practice. What we are learning now is the continuous automatic production of toasters and tools and toys can be quickly adapted in an emergency to the continuous automatic production of military equipment. If we do not build up the vital, habit-forming experiences of automation in time of peace, we certainly will never be able to develop them in time of war.

In view of these facts, I hold that we must make it a part of our national policy to achieve the maximum degree of automation in the shortest possible time.

We must do this to survive and prevail, but in doing it we will also flourish and prosper. There is plenty of work to do in this country—far too much for us to fear whether there will be enough of it to go around. It is not fitting for Americans to fear the future. American ingenuity is one of our most precious resources. To put a curb on it would be folly.

We have scarcely scratched the surface of what we can build and do and accomplish on this continent. Henry David Thoreau described us as a nation and a people when he wrote, a century ago, man's capacities have never been measured; nor are we to judge of what he can do by any precedents, so little has been tried.

Indiana Electric Association Holds 16th Annual Young Men's Utility Conference

DALE B. HORNUNG, Public Relations Director of the Michigan United Fund, admonished 200 delegates to the Indiana Electric Association's 16th Annual Young Men's Utility Conference to learn about America through education, religion, and service, at the conference's concluding session Thursday, April 5, at the Hotel Van Orman in Fort Wayne, Ind.

Speaking on "Know Your America,' Mr. Hornung said an understanding of America is vital to doing personal public relations in "representing ourselves to the rest of the world."

Mr. Hornung's address climaxed a two-day meeting that is sponsored by the IEA. Unique in the utility industry, the conference is completely planned by employees under 35 years of age from Indiana's six privately-owned and operated electric utility companies.

James E. Reed, an accountant with Indiana & Michigan Electric Co. and General Chairman of the 1956 conference, previously had announced the three objectives of the 1956 meeting: (1) to instill in the minds of the young utility employees the traditions of public service for which utilities are noted; (2) to increase their knowledge of utility operations in general and of each person's job in particular; and (3) to give them an opportunity to express their views.

C. V. Sorenson, Vice President and General Manager of Indiana & Michigan Electric Co., welcomed the young utility employees on behalf of the host company at the conference's initial session on Wednesday afternoon, April 4, in the ballroom of the Hotel Van Orman. P. W. Ross, Vice President of Indianapolis Power & Light Co. and vice president of the IEA, addressed the group on behalf of the conference sponsor.

William F. Thomas, Director of Placement, Tri-State College, Angola, Ind., discussing "The Utility and the Technical School," said there was "no saturation in sight" in the need by industry for engineers and other trained personnel, and outlined special and supplementary courses that were available to those seeking additional training.

The status of atomic power in America, with special emphasis on electric generation, was reviewed by Charles Wagner, Jr., of Westinghouse Electric Corp., in his address, "Atomic Power Today."

Other speakers at the Wednesday afternoon session were Dr. N. J. Volk, Associate Director of the Agricultural Experiment Station at Purdue University, "Research—The Frontier of Agriculture"; and James A. Blythe, Administrative Assistant, Indianapolis Power & Light Co., whose talk, "Moonlight to Daylight," reviewed the "plus service" of Indiana utilities in their campaign for better street and highway lighting and the improved safety results that it has achieved.

The entire Thursday morning session of the conference was devoted to a symposium, "Boiler to Balance Sheet," with Marvin J. Evans, of Southern Indiana Gas & Electric Co., as moderator.

Advances in turbine construction were outlined by Fred Nicoson, of Public Service Co. of Indiana, Inc.; D. P. Dumont, of Indiana & Michigan Electric Co., discussed the 330,000-v transmission line system of American Gas and Electric Co., of which I&M is an affiliate; W. T. Richards, of Indianapolis Power & Light Co., talked on the trade and marketing advancements in the utility industry; and Edward M. Alt, of Northern Indiana Public Service Co., reviewed the "tally" phase of the industry and the many changes in accounting methods contemplated in the future.

Supervisory Indoctrination—A Continuing Process

By Howard E. Hebble
Director of Educational Work, Public Service Electric and Gas Company

A paper presented before a meeting of the EEI Industrial Relations Committee, New York, N. Y., April 19, 1956

THE development of the first-level supervisor continues to be one of the most promising fields of management activity because of the possibilities it presents for cost reduction, improved service, and better employee relations.

In the past most of the emphasis has been placed on the training of existing supervisory personnel, but recently there has been a trend toward the indoctrination of new supervisory personnel, before or just after they are promoted. I shall here deal with some of the problems involved in this indoctrination of new supervisors, and I shall describe methods and techniques being used by a number of companies.

Supervisory indoctrination begins the day a future supervisor joins the company, and it doesn't end until the day he leaves the company. It's a continuing process that's going on all the time, for better or for worse, whether the company does anything about it or not.

Meaning of Supervisory Indoctrination

What do we mean by supervisory indoctrination? The dictionary definition of indoctrination is "to imbue with learning, principles, or doctrine." Supervisory indoctrination means developing an employee's supervisory ability by helping him to obtain the knowledge, skill, and attitude he needs to do a good job.

Determination of Needs

Since supervisory training is expensive, and each company's needs are different, the first step in setting up an indoctrination program is to determine if you have a problem and to find out what your training needs are. A number of methods can be used. These are essentially the same as those that would be used to set up a training program for present supervisors.

1. Review previous experience in training present supervisors.
2. Analyze problems such as grievances, turnover, absences, morale, poor work performance, safety.
3. Clarify your objectives. Are you training the employee for the immediate job or are you developing him from the long range point of view?
4. Make surveys, by interview or by questionnaire, of recently promoted supervisors, older supervisors, and higher-level supervisors.

In addition to providing knowledge, the last method helps to gain support for the program from the present supervisory group.

Objectives of Program

A determination of your indoctrination needs will indicate the areas in which training should be given, as well as the content of the training program.

There are three major areas of supervisory indoctrination — knowledge, skill, and attitude. Again these are much the same as in a training program for present supervisors. The usual objectives in each of these areas are as follows:

Knowledge

- Company history and organization
- Company personnel policies and procedures
- Duties and responsibilities of the job
- Techniques of supervision
  - Issuing orders and following up
  - Maintaining discipline
  - Planning and scheduling
  - Instructing workers
  - Orienting new employees
  - Conducting meetings and discussions
  - Developing cooperation and motivation
  - Communicating with employees
- Welfare Plan
- Union Agreement and Labor Laws
- Safety
- American Business System

Skill

- Dealing with people
- Techniques of supervision
- Training employees
- Speaking and writing ability
- Conducting meetings and discussions
- Interviewing

Attitude

- Toward — job, subordinates, other supervisors, boss, management, company, public
- Development of a feeling of belonging, a sense of participating in a significant way, a definite feeling of being a part of management.

Curve of Supervisory Needs

After determining the objectives, the next step is to decide when the indoctrination should be given. Figure 1 will help to give us a picture of this problem.

Let us assume that the growth of a typical supervisor's needs is represented by the curve on Figure 1. The vertical axis represents the knowledge, skill, and attitude he needs to do a good job. The horizontal axis represents the length of time he is with the company.

When an employee joins the company he has no need for supervisory ability. Gradually he starts to assume minor supervisory duties. As time goes on this need may increase further when he acts as a supervisor during vacation or illness. When he is appointed supervisor his need rapidly increases to the full 100 per cent where it remains.

Curve of Supervisory Ability

Let us superimpose on this curve of supervisory needs another curve that represents the supervisory ability

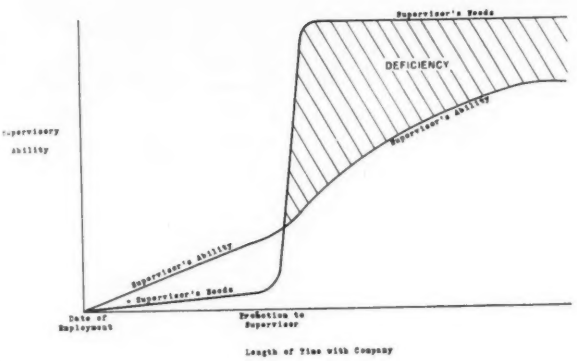


Figure 1—No Special Supervisory Indoctrination

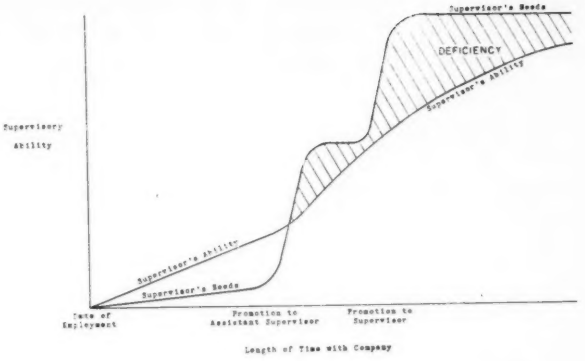


Figure 2—Increase Supervisor's Duties in Steps

that this future supervisor actually has, assuming he receives no special training.

In the time before becoming a supervisor, the employee acquires by exposure considerable knowledge that will be useful to him later on. He learns about the work and the company, he forms attitudes toward the company and his fellow workers, and he may gain some human-relations knowledge and skills. So his curve of supervisory ability rises somewhat.

When he becomes a supervisor the curve rises more sharply as he gains additional knowledge and experience. The curve then starts to level off, but continues to rise slowly.

These curves are not intended to be exact graphs, but instead are pictorial representations. You may want to draw the curves in a somewhat different way, but that would probably not affect the purposes for which I will use them.

The shaded area represents a deficiency of supervisory skill. The ideal condition would exist when the employee's supervisory abilities equal or exceed his supervisory needs. Then the shaded area would disappear. Obviously our goal is to come as close as possible to achieving this ideal condition. There is no single solution, but there appear to be four principal approaches to the problem.

Gradual Increase

The first method is to increase gradually the future supervisor's duties and responsibilities, thus lowering the curve of what he needs. (See Figure 2.) This can be done by establishing a position of assistant supervisor, or leadman, or understudy. This enables the future supervisor to assume his new responsibilities gradually or in several steps.

Indoctrinating the Worker

The second method is to raise the curve of ability as far ahead of time as possible by indoctrinating the employee when he is a worker. (See Figure 3.) The knowledge and ability that an employee acquires during this period before he receives any planned supervisory training is not usually considered as being supervisory indoctrination, but that is actually what it is. Indoctrination begins the day the future supervisor joins the company. He learns a lot from what he sees and hears, and by the climate on the job. From his contacts with his supervisor he gets some basic ideas about supervisory techniques. This is when he acquires a deeply-rooted attitude toward the company. During this worker period considerable self-development may take place through reading and study, particularly if the employee is encouraged to do so. The company can teach him a great deal about its organization, procedures, and policies. All of this indoctrination can have a great influence upon the employee's effectiveness when he becomes a supervisor.

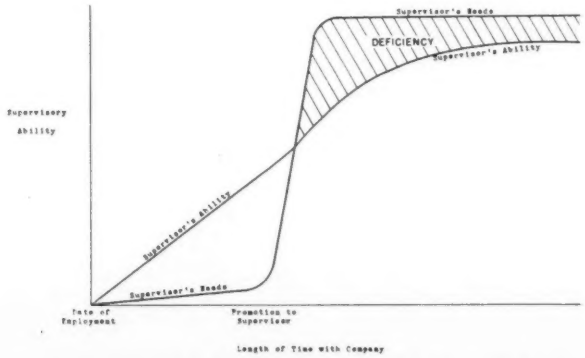


Figure 3—Indoctrination When in the Worker Group

An examination of the content of most supervisory training courses will indicate that a large part of the information that is provided should be obtained by all employees. I will cite an example in our own company. We have included in our supervisory conference programs two conferences on the company's welfare plan. These conferences were received very enthusiastically by the supervisors, as most of them did not have sufficient knowledge of the subject. However, this is information that all employees should have, and we are working on methods to provide it.

I am not suggesting that we give all workers special information that will help only a few of them to become better supervisors. I am suggesting that we give all of the workers the information that they need to become good workers, and this knowledge will help those who are later promoted to

supervisors. In short, better communications at the employee level should produce better supervisors.

Special Training Before Promotion

The third method is to raise the curve just before the employee is promoted by giving him special pre-supervisory training during this period. (See Figure 4.) This may be an informal type of training or it may be a planned training course for a group of selected employees.

Most companies do some pre-supervisory training on an informal basis. A supervisor or department head recognizes the possibility or likelihood that a supervisory vacancy may occur, and he attempts to develop one or more employees to fill the position This type of informal training is not expensive and it does not take the man off his regular job.

But it has a number of disadvantages. It is usually on a hit or miss basis. Its effectiveness will largely depend on the ability and interest of the current supervisor, who is usually limited by the time he can devote to the training.

The other method of indoctrination during this period is by a planned program.

A planned training course at this time offers a number of advantages. It can be carefully organized and then given over as long a period as may be necessary. The employee is in a relaxed state of mind, which is conducive to good learning. The employee can be given actual experience in supervision on a trial basis.

On the other hand there are a number of problems. It isn't always possible to anticipate when or where vacancies will occur, so it is difficult to forecast accurately what your needs will be. It may be expensive, as the trainees are usually taken off their jobs for long periods.

Despite these objections, it seems that more consideration should be given to the training of utility personnel during this period. Turnover in our industry is low, and it takes an employee many years to become a supervisor. This makes it possible to train potential supervisors well in advance, and to raise their curve of ability before promotion.

Indoctrination After Promotion

The fourth method is to increase the new supervisor's knowledge and skill right after he is promoted, when the greatest deficiency exists. (See Figure 5.) This is when there is the greatest spread between the curve of the supervisor's needs and the curve of his ability. Supervisory indoctrination is usually given at this time, and many excellent programs have been developed.

This method has definite advantages. Training is given right at the time the new supervisor is going to use it and he is eager to learn. The promotion to supervisor is a particularly difficult transition, and the new man needs and welcomes help. For the first time this employee is directing others. For the first time he is not a member of the union. He is expected to make a chameleon change and assume overnight a management point of view and attitude. He is in a new relationship with the people with whom he has been working. Some of them may be jealous of his promotion and waiting for him to make a mistake. In short, he is on the spot—and he knows it, and is accordingly very receptive to any assistance.

But this method has definite limitations. The new supervisor usually needs more knowledge and skill than he can acquire in a short time. The stress and strain that is involved in the promotion may make it difficult for him to concentrate on the training. And it may add to his woes if he has to take much time off from the job for training.

Summary of Approaches

I have described four approaches to the problem of when supervisory indoctrination should be provided.

1. Increase gradually the future supervisor's duties and responsibilities.
2. Indoctrination when in the worker group.
3. Special training before promotion.
4. Indoctrination after promotion.

All of these approaches have their advantages and all their disadvantages, which would vary from company to company as well as within the departments of the same company. It is not likely that any one of these approaches will do the whole job of eliminating the deficiency area. It would appear that the most satisfactory solution is for each company to select a combination of approaches best suited to its needs, and then develop a continuing integrated program that starts when the employee joins the company.

Methods of Indoctrination During the Worker Period

So much for the problem of when the indoctrination should be given. Let us now consider the methods of indoctrination that can be used dur-

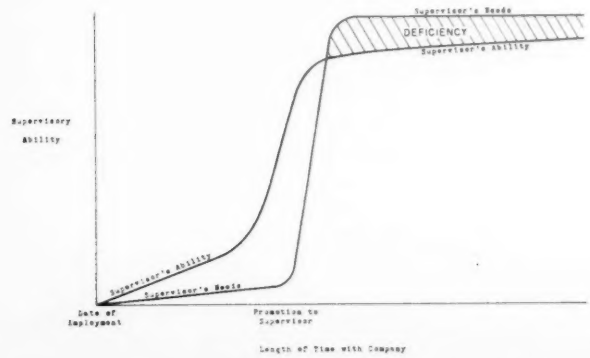


Figure 4—Special Training Before Promotion

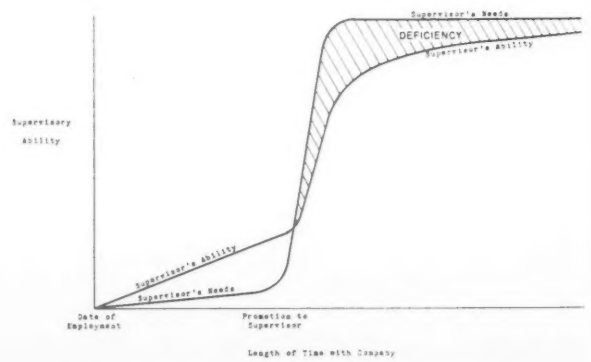


Figure 5—Indoctrination After Promotion

ing the first period when the employee is a worker. There are a number of activities in my company, Public Service Electric and Gas Co., that fall in this category.

Orientation Course

Our Commercial Operations Department gives new employees a four-day orientation course that provides them with a general picture of the company's operations, and specific information about the operations of their department. A manual is given to the members of the course.

Know Your Company Course

Public Service has a three-day Know Company Course for employees of the General Office. Twenty executives give an informal "inside" story of the operations of their departments. A manual is also given to the members.

Company Newspaper

In the Public Service *News*, articles are published occasionally under the title "Know Your Company." They describe the operations of various departments. Last year all of these articles were republished in book form.

After-Hours Educational Courses

Public Service offers 28 courses in its after-hours educational program, which covers a wide variety of technical and non-technical subjects. These include Public Speaking, Effective Thinking, Practical Psychology, and Fundamentals of Economics.

Library

We have an excellent company library which is an important indoctrination tool.

Employee Information Cards

We distribute to all employees Information Cards giving vital statistics from the Annual Report.

Reading Racks

At all locations in the company, we have reading racks containing a wide variety of free educational material.

Many other companies carry on activities during this period that play an important part in the development of the knowledge, skill, and attitude that a future supervisor will require.

Philosophy of Management

The Esso Standard Oil Co. gives all its employees a booklet "The Way To Work Together" that presents the company's philosophy of management, and their belief in the importance of the individual.

Letter from the President

In each issue of the Rochester Gas and Electric *News* there is a letter from the president, giving a friendly "inside" story about the company's activities and problems.

Methods Used During Pre-Supervisory Period

What are some of the specific methods used to give special training in the period before promotion? The industrial concerns that have planned pre-supervisory training programs include:

Fisher Body
Ford Motor
American Smelting and Refining
International Harvester

The International Harvester program is representative of this type. The Harvester Leadership Course is a 26-week, full-time program of intensive training. It prepares selected employees for first-line managerial positions in shop, technical, and office departments.

Each location admits employees to the course in accordance with its anticipated requirements. The candidates are carefully selected. Each student is informed at the outset that enrollment in the course is not a guarantee of managerial status. Students suffer no loss of earnings during the course.

During the final six weeks the student spends ten hours per week in classroom sessions, which cover the usual areas of supervisory training. The remainder of the time is spent in individually scheduled work experience within his own department. This rotated work experience gives the student a sound working knowledge of the supervision of the department.

During the final six weeks the student spends full time on work assignments in various departments, and receives coaching from key men in the department. Once a week informal conferences of about a half day in duration are held with management personnel to discuss problems involving over-all policy and procedures.

The student obtains from the course much more than information and generalities. Throughout the program he has numerous opportunities to acquire supervisory skill and to learn to accept responsibility.

Methods Used in Period After Promotion

The Electric Department of our company has developed an excellent Training Program for New Supervisors. This is a four-week, full-time course. The first part, lasting two weeks, is given to every new supervisor at his field location, as the first assignment in his supervisory job. It includes three days of individual instruction by a qualified local supervisor, which is coordinated with seven days of observation of the work in other departments in his division. This enables the new supervisor to become familiar with office procedure and to observe the work of other supervisors at several levels.

In addition to providing information, this part of the course helps to condition the new supervisor for the conferences in Part II by gradually accustoming him to mental work. It also helps to gain the support of field management because they provide this part of the training.

The supervisor then works in his new position until a satisfactory conference group can be organized. These groups are composed of men from all field divisions, so that a varied background of experience is represented.

The final two weeks of training is conducted on a conference basis in the General Office and includes the usual areas of supervisory training. No attempt is made to provide information about the technical aspects of the job. More than half of the time is spent discussing practical problems and case examples involving the application of the principles presented. The discussion helps to develop the new supervisor's ability to express himself. There are numeorus visual aids, such as films, charts, and flannel-board symbols. The new supervisor is given copies of the outline for each part of the course, along with many tables and charts.

On the final day of the course, graduation exercises are held at a luncheon which is attended by the top executives of the department.

The atmosphere in which the course is given is considered as important as its content. It is made clear to the men that they are free to say what is on their minds, and they are encouraged to participate in the discussion. Personal criticism is avoided. There

are frequent contacts with upper management, who attend the meetings and daily luncheons. The men are treated like members of management. Change of pace and variety are given to the program by frequently changing the instructors, the subject matter, and the meeting place.

As you are well aware, it is difficult to evaluate the results of any training program. Nevertheless, there has been a great deal of enthusiasm about the results of this program, even though only two groups have completed their training.

The reaction of the new supervisors has been extremely favorable. This has been apparent from their interest during the conferences and from their comments afterwards. The course has boosted their morale; it has made them feel that they are really a part of management; and it has given them more confidence in their ability to do the job. One of the top executives in the department summed up the results by saying "The change that came over the men was worth anything we can do."

It seems to me that the factors responsible for the success of the course are:

1. The whole-hearted interest and support of the top management of the department.
2. Careful preparation of the material. It was developed over a period of about five years.
3. The material is varied and practical, and the course is presented in a down-to-earth manner by men who are familiar with field operations.
4. The atmosphere in which the course is conducted.

Selection of Methods of Indoctrination

When selecting methods and techniques of supervisory indoctrination from among the many that are available, there are a number of factors to be considered.

Supervisory indoctrination is much more than the supplying of information. To a large extent it involves the development of skills and attitudes required to handle people in difficult and complex situations.

This type of training or indoctrination can not be accomplished just by telling an employee what to do. The old style teaching methods of lecturing or giving an employee a book to read are of limited effectiveness, particularly in the human-relations areas where feelings and emotions are involved.

Training or indoctrination should do the following things:

1. Create interest and develop receptivity.
2. Supply information.
3. Develop understanding and belief.
4. Develop increased perception and sensitivity toward the other fellow's feelings.
5. Develop skill in using new human-relations techniques.
6. Create motivation to use these skills.
7. Provide a job climate in which these skills can be used.

The extent to which a training program accomplishes these things is an excellent measure of its effectiveness. This type of training is best accomplished by programs using discussions, conferences, case studies, and role playing.

Determining Over-All Effectiveness

As a further aid in selecting suitable methods to use in an indoctrination program, it is helpful to prepare an analysis that will provide a picture of the over-all effectiveness of the program. By this means a continuing, integrated program can be developed that will fit the needs of each company.

On the left side of an analysis of this type could be listed the supervisor's needs, under the main headings of Knowledge, Skill, and Attitude. Across the top could be listed the methods of indoctrination that are being used or are being considered. A numerical value should be given to the estimated effectiveness of each method in supplying each objective of the program. The numerical values would vary with each company, as well as with each department in a company.

The cross totals would indicate the extent to which the supervisor's needs are being supplied in this part of the program, and show its strong points and its weak points. The vertical totals would indicate the relative effectiveness of the various training methods. This type of analysis could be prepared for the Preliminary Period, for the Pre-Supervisory Period, and for the Period After Promotion.

In conclusion, it should be apparent that there is no royal road to effective supervisory indoctrination. There are many paths to follow but none of them are easy.

There are, however, splendid tools available to do the job. Our knowledge about the training and indoctrination of supervisors has come a long way in recent years. Effective methods and techniques have been developed. Almost any company, through a study of its needs and by the selection of suitable methods, should be able to develop a continuing, integrated program that will solve its supervisory indoctrination problem.

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14 Tree Farms Certified at Consumers Power Co.

FOURTEEN forest plantations established by Consumers Power Co. along Michigan rivers have been certified as tree farms by the American Tree Farm System. The certification covers 3,724 acres of river lands in eight Michigan counties.

The company's reforestation program, instituted in 1924, now embraces approximately 15,000 acres on which more than 14,000,000 trees have been planted. It is expected that certification of additional Consumers plantations in other counties will follow.

To qualify for certification, forest lands must be under management "in a manner which will assure continuous production of commercial forest crops in accordance with forestry practices approved by American Forest Products Industries, Inc., and Michigan Forest Industries." Among the company's objectives, in maintaining and increasing the forest cover in the watersheds of rivers on which hydroelectric installations are located, is the conservation of water by helping to stabilize run-off.

Most of the trees are pine or spruce. Pulpwood, sawlogs, and Christmas trees have been harvested in large quantities from Consumers' lands through selective cutting.

Consumers' lands are for the most part open to the public for recreation purposes. The company operates trailer camps on the Manistee and Au Sable Rivers, and a number of parks and other facilities are operated by public agencies on lands made available by the company.

Insurance Committee Meeting

By R. D. Constable, *Chairman*

TWENTY-TWO of the 27 members of the Insurance Committee were represented at the two-day meeting held on March 19th and 20th at the Atlanta Biltmore Hotel in Atlanta, Ga.

Royal Beckwith, Manager of the Inter-Regional Insurance Conference, and H. Norris Pye, Chief Engineer, and Cecil T. Jones, of the South-Eastern Underwriters Association, attended as guests, emphasizing the harmonious relations that have existed for many years between the utility industry and the representatives of the fire insurance underwriters. There was considerable discussion of the new credit in the Electric Generating Schedule which is based on factors of dispersal of risk and certain loss reducing features of superior management, in which these guests were most helpful and informative.

Another guest in attendance was William H. Berry, Secretary of the American Fire Insurance Group. Mr. Berry brought the committee up to date on the very substantial progress being made by the insurance industry in its preparations to handle the atomic energy hazards in which utilities are becoming increasingly involved.

Interesting reports were submitted by subcommittee chairmen on Boiler and Machinery, National Disaster, Excess Fire, Excess Liability, and Earnings Impairment insurance developments. Progress was reported on a project to prepare a reasonably simple questionnaire aimed at developing data on insurance practices generally in the utility industry.

The Boiler and Machinery Subcommittee is specifically engaged in a project of locating the gas turbines that are in operation and attempting to determine the accident experience on a basis of sufficient hours of exposure to be of value in rating discussions on the subject with the National Bureau of Casualty and Surety Underwriters.

Electrical Equipment Committee Meeting

By C. L. Derrick, *Chairman*

THE Electrical Equipment Committee held its 69th meeting at the Edgewater Beach Hotel in Chicago, Ill., on April 30 and May 1 with an attendance of over 100 members and guests.

The program of the meeting consisted of the presentation of papers, reports, and discussions under the sponsorships of D. W. Taylor, Chairman of the Subcommittee on System and Apparatus Troubles; H. E. Deardorff, Chairman of the Subcommittee on System Engineering; and S. C. Townsend, Chairman of the Subcommittee on Apparatus and Design. In accordance with established procedure, the committee devoted most of the first day in closed session to an informal discussion of apparatus troubles and other appropriate subjects.

During the latter part of Monday, somewhat of an innovation for the Electrical Equipment Committee was presented in the form of an informal round-table discussion. As a basis for this part of the program, members had been requested previously to submit individual questions on which they would like to have general discussion or answers, thereby obtaining a cross-section of industry practice as regards the particular problems raised. The questions submitted represented a wide range of design and operating practice and the resulting answers and discussions were most illuminating in establishing trends or policies. At the conclusion of this session, there was a practically unanimous expression from the members that this type of discussion was of very definite value and consideration should be given to its continuation as a more or less regular part of the program of future meetings.

Apparatus and Design

On Tuesday morning, J. W. Bennett of the Subcommittee on Apparatus and Design sponsored a paper by T. D. Reimers describing the new West 38th Street Substation of the Consolidated Edison Co. of New York, Inc. The design of this station embodies two unusual features; namely (1) the several 69/13.8 kv transformer banks are at no time paralleled within the station at 69 kv nor at any point at the 13.8 kv network feeder supply voltage, and (2) the station is located in the subbasement of a 43 story commercial building in New York City's garment district. This site was leased in 1927 when the building was new, for a future d-c substation to contain five rotary converters. Because of the unusual location, special attention was paid to fire protection; each transformer is enclosed in a vault of fireproof construction and provided with both a high pressure water spray system and a carbon dioxide system.

The second paper sponsored by the Subcommittee on Apparatus and Design described the electrical features of the upper Raquet River power projects and was presented by W. C. Van Dyke of the Niagara Mohawk Power Corp. This development consists of five generating stations and a storage reservoir at Carry Falls; all stations are designed for unattended operation under supervisory control, are used primarily as peaking plants, and feed into one common 115-kv wood pole transmission line. The total capacity of the five plants is about 112 mw.

System Engineering

The first paper on the program of the System Engineering Subcommittee was sponsored by G. M. Tatum and presented by C. E. Asbury of Commonwealth Services, Inc. Mr. Asbury discussed the philosophy of protective relaying. He pointed out the goal or ideal philosophy of good system protection as being an over-all system protective arrangement that would anticipate any undesirable conditions that were about to occur

and correct them without disturbing service to any cusomers. At the present state of development in the art of system protection, the industry has not been able to attain such a high degree of perfection but is continually striving to detect and correct undesirable conditions as quickly as possible with a minimum disturbance to service. The actual type of protection provided is often a compromise between cost, operating risk, and the quality of service required. The major change in the philosophy of system protection, as the necessity for furnishing high quality service has increased, has been principally from that of protecting equipment to that of protecting service.

In order that the over-all ideal philosophy of good system protection be attained a well planned program of selecting, installing, maintaining protective equipment, and analyzing its performance should be adopted. This should include proper selection and application of relays and breakers. The protection engineers should have a part in planning the system to assure that systems are not planned that cannot be adequately protected. The initial installation should be thoroughly checked and tested to make certain all connections are proper. It is essential that properly coordinated relay settings be made and the relay calibration carefully checked. Adequate periodic maintenance of relays and breakers should be scheduled. A careful analysis of relay and breaker performance aided by automatic oscillographs will be very helpful to those responsible for system protection.

At a joint luncheon of all of the engineering committees on Tuesday Colonel H. S. Bennion, Managing Director of the EEI, introduced Edwin Vennard, who will become the EEI's Managing Director on June 1. Col. Bennion also spoke briefly on the opportunities available for young engineers in the utility industry.

The afternoon session on Tuesday, sponsored by the System Planning Subcommittee and directed by its vice chairman, R. G. Hooke, was devoted to a review of the second draft of the Electric System Load Forecasting Report. This report was prepared by a working group of the System Planning Subcommittee under chairmanship of T. W. Schroeder. A resumé of the report was presented with considerable discussion following. This report was approved by the Electrical Equipment Committee after the changes suggested in the discussion have been included. The report will ultimately be published as an engineering report available to the industry.

Transmission and Distribution Committee Meeting

By G. H. Fiedler, *Chairman*

THE Spring meeting of the Transmission and Distribution Committee was held on May 1-2 at the Edgewater Beach Hotel in Chicago with 180 members and guests in attendance.

Standards and Specifications

M. H. Powell, Chairman of the Standards and Specifications Subcommittee, called on task force chairmen for progress reports.

F. A. Ashbaugh reported that the proposed new specifications for heavy duty Douglas fir crossarms and heavy duty Douglas fir braces soon will be submitted for ballot. The Timber Products Task Force also is initiating a study of standing pole inspection practices and plans to investigate the practicality of establishing standards for pole framing.

K. S. Garrett reported that fundamental research on aluminum conductor fittings being conducted by Armour Research Foundation now is progressing very favorably. Work is estimated to be more than half completed and tests are proceeding at an accelerating pace. The final report is anticipated in early 1957.

H. Mac Vaugh stated that the Aluminum Conductor Compression Tools and Fittings Working Group is determining the acceptability of the first of a series of tentatively selected standard die sizes for compression sleeves for full-tension splices.

H. K. Williams reported that a revision of TD-6, *Specifications for Steel Crossarm Braces* is about ready for publication and that a proposed new specification for porcelain wireholders has been submitted for ballot. The Line Hardware Task Force also is working on four other proposed new specifications and revisions of seven existing specifications.

F. C. Marschner reported that the Connectors for Underground Cable and Cable Accessories Task Force is making good progress in developing a proposed new specification for straight compression type connectors for insulated copper conductors.

A. T. Green reported favorable letter ballots on proposed street lighting equipment standards for steel luminaire supports, film cutouts, insulator head and reflector interchangeability, high voltage controllers, and a revision of existing standards for metal head and reflector interchangeability.

Overhead

The next session was sponsored by H. L. Livingood, Chairman of the Overhead Subcommittee.

D. F. Tulloch announced that 37 companies represented on the committee are participating in a tentative national roster of company personnel to contact for emergency assistance. The Mutual Assistance Coordination between Utilities Task Force also is studying a plan whereby weather and associated utility damage information can be collected and disseminated over normal existing communication facilities between utilities to provide advance warning over a large section of the country.

R. M. Grogan described experience with aerial triplex cable now being used for secondaries by the Long Island Lighting Co. Both aluminum and copper are used. The cable is attached to the pole by a single throughbolt clamp and as many as four services are supported from the neutral at a single point 20 inches from the pole. Advantages over open wire construction include improved service continuity, reduced pole space requirements, improved appearance, reduced

operating and maintenance costs, better voltage regulation and smaller losses and, where aluminum is involved, greater strength and smaller sags. Installation costs are almost identical since the greater material costs are almost exactly offset by the smaller labor costs.

C. H. Schofer and R. V. Nuss outlined mechanized methods employed by the Pennsylvania Power & Light Co. to reduce transmission line construction costs. Use of panel forms for concrete work, a special pipe hauling rig for hauling poles and tower steel, a Lorain crane for steel tower erection, a hole digger capable of digging up to 96-in. diameter holes 15-ft. deep for tower foundations, a special splicing tool trailer for wire stringing operations and right-of-way clearing machines have reduced costs of these respective operations from 27 to 52 per cent.

Safety

The afternoon session on the first day was sponsored by W. J. Witte, Chairman of the Safety Subcommittee.

W. C. Bremmer described the safety program of the Commonwealth Edison Co. He particularly stressed the many devices used in a general program to keep safety constantly in the minds of every employee.

B. C. Sherwood discussed the value of standards in promoting safety. Establishment of material and construction standards not only offer opportunities to provide safe and dependable items of equipment and adequate climbing and working space, but the mere fact of standardization also promotes safety by the workman's recognition of familiar pieces of equipment and pole top arrangements.

R. M. Ginn reviewed factors involved in designing safety into underground distribution plant. However, he emphasized that safe design will not guarantee good safety performance. As an example he noted that the underground lines department of The Cleveland Electric Illuminating Co. achieved about a 17 to 1 reduction in lost time accidents over a seven-year period without any basic changes in plant design. The only major change during this period was to shift the emphasis on safety from a staff responsibility to a line responsibility.

General Engineering

D. Burns, Chairman of the General Engineering Subcommittee, sponsored a session covering a variety of subjects.

E. Rothfus outlined current activities of the System Planning Subcommittee.

A. J. Pansini, Long Island Lighting Co., and M. L. Manning, Pennsylvania Transformer Co., presented companion papers discussing ideas for distribution transformers of the future. Both agree that three or four capacity ratings should be able to serve requirements up to 200 kva and that taps should be eliminated. Other items discussed included the possibility of a common unit for either overhead or underground use with a cable entrance for primaries, a self-protected unit with internal lightning arresters and primary fuses but with secondary breakers deleted in favor of limiters placed in the secondaries, built-in series capacitors, and some type of indicator which would show the remaining life in the transformer.

H. W. Grate reported progress in plans to accumulate case histories of voltage dip and short service interruption problems by the subject task force.

J. W. Anderson reported increasing problems resulting from integral horsepower central air-conditioning units which fail to meet EEI-NEMA Motor Starting Current Rules.

A considerable portion of the session was devoted to discussion of higher secondary voltages for residential service. D. K. Blake, General Electric Co., presented analyses to show that savings from the use of 240/480 volt service are insufficient to warrant serious consideration for even new residential construction. R. F. Lawrence, Westinghouse Electric Corp., contended that substantial savings could be achieved with either 265/460-v three-phase or 240/480-v single-phase service if several blocks of residences are served by a single large transformer supplied at 34.5 kv.

F. A. Cox described developments in the use of higher secondary voltage in Chicago. In addition to industrial and commercial applications several tall apartment buildings are being served at 277/480 volts with a dry-type transformer on each floor to provide 120/240-v single-phase service to individual apartments. Most of these apartment installations are conversions to save rewiring.

Underground

The closing session was sponsored by H. E. Cody, Chairman of the Underground Subcommittee.

H. R. Nash described progress in studies on the use of aluminum conductors for pipe-type cable being conducted by The Detroit Edison Co. Load cycle tests of compression connectors for 2250 Mcm conductor have been satisfactory and limited tests of composite aluminum-to-copper terminal lugs are promising. An experimental 1420 ft line of 1000 Mcm aluminum operating at 120 kv is being placed in operation for a two-year trial.

H. Halperin discussed plans for the proposed industry research project on extra high voltage cable.

A paper by C. A. Bauer and D. D. Nagley described procedures and practices for making temperature surveys to assure operation of the cable and conduit system within established temperature limits. Methods of analyzing results and rating conduits also were outlined.

R. I. Perry described corrosion mitigation practices employed on the underground cable plant of the Commonwealth Edison Co. The use of copper for grounding has been discontinued in favor of chrome steel ground rods with underground interconnections of leaded or lead-covered copper cables. Any exposed copper is covered or taped. Leaded copper also is used for secondary network neutrals.

J. A. Pulsford presented a movie showing repairs to a 138 kv pipe-type cable after the pipe was pierced by a back hoe making an adjacent excavation.

On the evening of the first day J. L. Smith and C. F. Bowman showed movies of the recent installation of a 14.8 mile, 138 kv pipe-type cable by the Commonwealth Edison Co.

A Catalog of EEI Publications

is available upon request to:

Edison Electric Institute
420 Lexington Ave.
New York 17, N. Y.

The Credit Picture

Results of Survey Conducted Under Joint Supervision of the Credit and Collection Committees, EEI Accounting Division and AGA Accounting Section

THE Credit Picture for the second half of 1955 as compared to last year presents a somewhat encouraging picture when viewed nationwide. However, while some geographical areas reported favorable trends, several areas reported marked trends in the opposite direction.

Sales Increase Shown

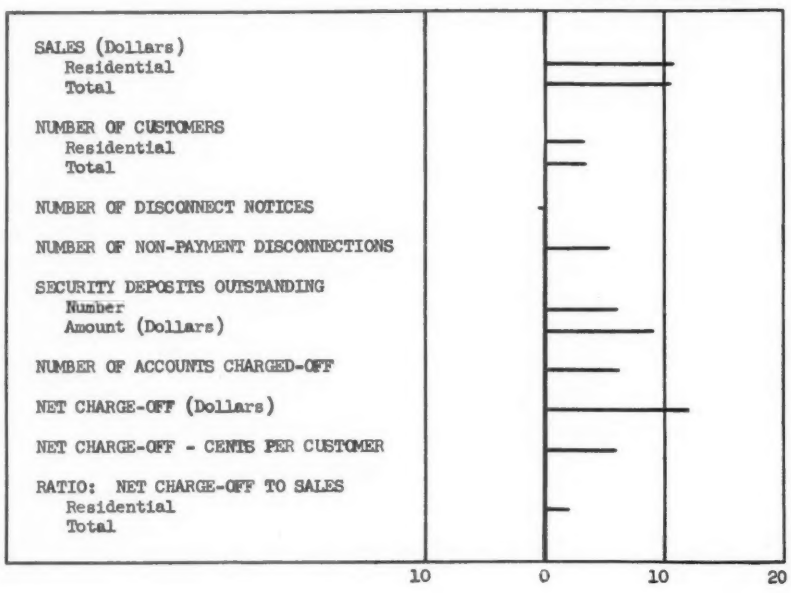
Sales for the reporting companies, both residential and total, are up an average of 10 per cent for the nation with the greatest geographical increase (six companies) 16 per cent and the lowest increase (six companies) 5 per cent. In four areas, residential sales showed a greater increase than total sales while in five other areas the increase was comparable to that of total sales. The related picture reported as to the increase in number of customers indicates a less rapid but continuing rising trend. These two items—additional customers plus all customers with a higher average usage—present an ever-increasing challenge to the collection managers of our companies.

Of the surveyed companies, only a small proportion reported as to cycle or past due residential dollar arrearages. This data is not tabulated below, but all of the companies reporting on the item indicated percentage increases in varying degrees. This is the category which each company must endeavor to control within reasonable limits. It is also the area where we spend the greater portion of our collection expense dollar and where this expense dollar may well show the greatest effectiveness.

Nationwide the number of Disconnect Notices was down slightly with several geographical areas reporting a considerable decrease and a few moderate increases. Non-payment Disconnections were up in all areas but three.

A trend away from the "No security deposit policy" towards a decided increase in the amount of the individual security deposit plus a gradual trend

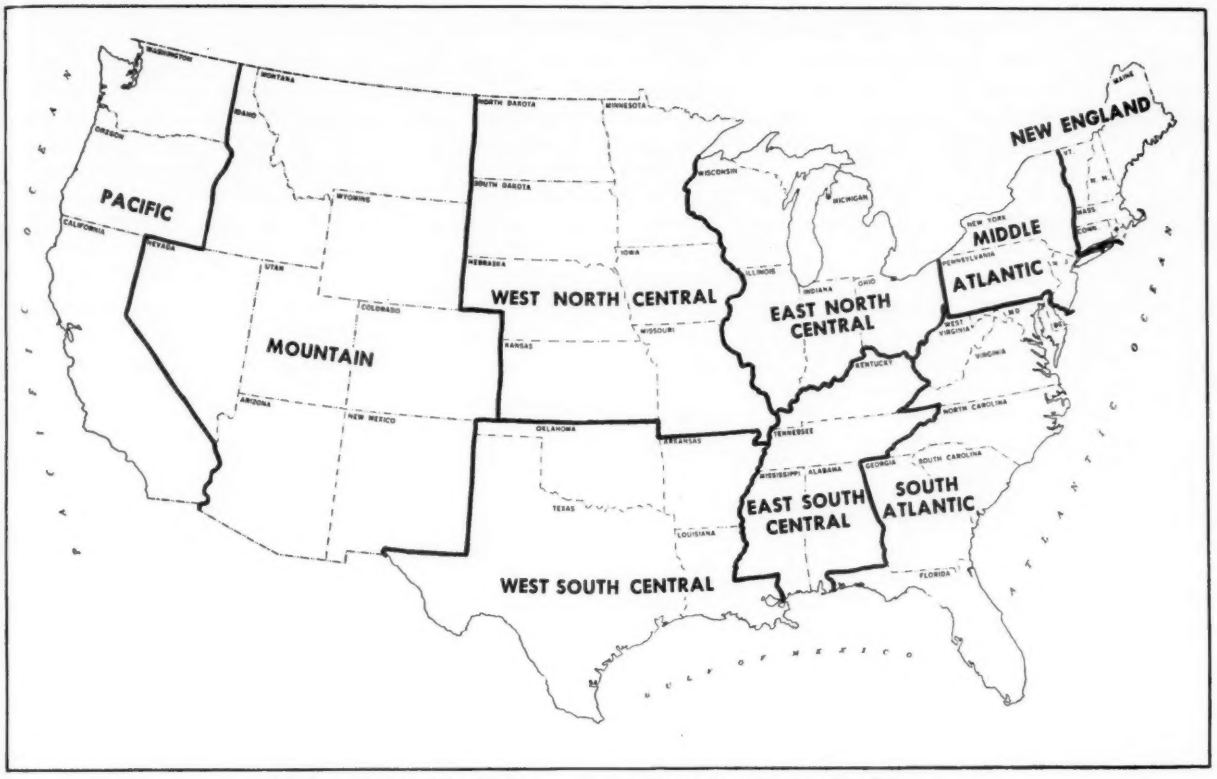
CREDIT AND COLLECTION EXPERIENCE OF U. S. ELECTRIC AND GAS INDUSTRIES
July 1, 1955-December 31, 1955 compared with same period for 1954



REFLECTION OF THE CREDIT AND COLLECTION EXPERIENCE OF UNITED STATES ELECTRIC AND GAS UTILITIES—JULY 1, 1955, TO DECEMBER 31, 1955

Per Cent—Increase or Decrease over Corresponding Period—1954

	New England	*Middle Atlantic*	*East North Central*	*West North Central*	*South Atlantic*	*East South Central*	*West South Central*	*Mountain*	*Pacific*	*Total United States*
Sales in Dollars:										
Residential	+ 7.5	+10.1	+11.2	+16.1	+13.2	+ 8.2	+ 8.0	+15.3	+13.0	+11.6
Total	+ 8.6	+ 7.4	+12.1	+10.9	+12.3	+ 5.1	+ 8.5	+16.7	+13.1	+10.7
Number of Customers:										
Residential	+ 1.3	+ 0.9	+ 3.9	+ 3.4	+ 5.3	+ 5.5	+ 4.2	+ 6.5	+ 5.5	+ 3.4
Total	+ 1.1	+ 0.7	+ 3.9	+ 3.3	+ 6.1	+ 5.3	+ 3.8	+ 8.7	+ 6.6	+ 3.7
Number of Disconnect Notices	+ 7.6	− 8.2	− 0.6	+ 6.5	+ 5.3	+ 8.4	− 3.1	+20.5	−16.4	− 0.8
Number of Non-Payment Disconnections	+ 5.2	− 2.0	+ 5.7	− 1.4	+11.0	+ 9.3	+ 5.2	+80.3	− 2.3	+ 5.2
Security Deposits Outstanding:										
Number	−12.5	+ 6.9	+14.6	+18.4	+10.6	− 2.0	+ 2.2	+12.4	− 0.5	+ 6.2
Amount (Dollars)	− 0.8	+ 7.8	+18.6	+12.0	+12.7	− 0.4	+ 3.4	+ 5.3	+20.7	+ 9.1
Number of Accounts Charged Off	+29.7	+ 5.5	+14.7	+15.3	− 4.8	− 0.5	+ 2.1	+15.0	+ 5.7	+ 6.8
Net Charge-Off (Dollars)	+58.1	+ 6.5	+21.1	+23.5	+ 5.9	− 2.8	− 7.4	+ 6.5	+ 0.7	+12.4
Net Charge-Off—Cents per Customer	+27.4	+ 5.9	+16.7	+20.2	....	− 7.6	−10.5	− 1.9	− 5.7	+ 6.1
Ratio: Net Charge-Off to Sales:										
Residential	+47.8	− 2.3	+ 7.0	+ 8.3	− 5.2	− 9.3	−14.3	− 7.3	−11.1	+ 2.1
Total	+42.9	....	+10.0	+12.5	− 4.0	− 5.6	−15.4	− 8.7	−12.0	0.0



Major geographic divisions as reported by the Credit Picture

towards a wider coverage is indicated. Only two out of the nine zones reported a decline in the amount of security deposits with seven reporting on the plus side and the national average is up both in number and dollars. The figures from the individual companies seem to point towards a minimum number of security deposits for increased or more adequate amounts in relation to the increased average monthly dollar sales.

Category Needing Attention

Only about one-half of the reporting companies were able to indicate the number and amount of Off-line Final Bills, so this item is not tabulated below. Since this is the source of our Bad-Debt losses, it would seem logical that more attention should be centered on this category. Studies made by a few of the operating companies indicate this area the prime source from which forecasts of future Bad Debt losses may be made. Of the companies reporting, the national trend is upward with four areas reporting some decline and five areas reporting a decided increase.

Both the number and dollars of accounts charged-off are up for the nation as a whole with the area picture showing some wide variations, two reporting a decrease and seven increases. A breakdown of 79 companies showed the following:

Net Charge-Off		*Number of Companies*
Gas Companies	(Increase)	11
Combination Companies	"	19
Electric Companies	"	21
		51
Gas Companies	(Decrease)	11
Combination Companies	"	4
Electric Companies	"	13
		28

The fact that 28 companies reported a decrease is, we feel, some indication that certain areas may be starting to move in the right direction even though the majority of the companies indicate a continuing trend upward. This possible favorable trend is further set forth when we examine the ratio of Net Charge-off to both Residential and Total Sales. Nationwide the ratio of Net Charge-off to Total Sales did not increase with five areas reporting decreases, three increases, and one status quo. The ratio of Net Charge-off to Residential Sales was up slightly with the area picture being the same as that for the ratio to Total Sales. Here again the general trend is somewhat more favorable.

We have added to the Credit Picture the category, Net Charge-Off —cents per customer, and our first experience indicates this item should prove to be worthwhile as a trend denominator. The national average was 14¢ for 1955 as compared to 13¢ for 1954, up 6 per cent. Geographically four areas were above, four were below the national average, and one was status quo.

Credit Picture Coverage Increasing

The coverage of the Credit Picture is increasing with respect to the number of companies reporting on the various items and the reference and trend value of this report to each company and the industry is assuming growing proportions. Next year at this time, the project committee plans to publish a complete 12-months summary which should verify whether the trend towards a slight leveling off in the rate of increase of our Bad Debt losses as indicated by this report is to continue.

Personals

Harvey H. Plank has been elected President and General Manager of Delaware Power & Light Co. succeeding **Stuart Cooper** who has been President of the company since 1943. Mr. Cooper will continue to serve as Chairman of the Board and of the Executive Committee in which capacities he will continue to actively participate in the affairs of the company.

Mr. Plank was formerly Vice President and General Manager of the company. A graduate of the Clarkson College of Technology, Mr. Plank went to Wilmington in 1943 as assistant to the general manager of the company, being subsequently elected, first, as vice president and then as vice president and general manager. Prior to joining Delaware Power & Light, he was associated for many years with the United Gas Improvement Co. in Philadelphia. He has spent his entire business career in public utility work.

He served as a trustee of Clarkson College from 1949 to 1953 and on June 6, 1954, received an honorary degree of Doctor of Engineering from that institute. He is a member of the Delaware Society of Professional Engineers and the American Institute of Electrical Engineers.

Roy S. Nelson, President, Gulf States Utilities Co., has been named recipient of the annual Golden Deeds Award, presented by the Exchange Club of Beaumont, Texas. The annual award is designed to give deserved recognition to the good deeds of living Beaumonters who have faithfully and generously served their community and fellow citizens. Among his many civic activities which earned the award for Mr. Nelson are his efforts on behalf of the United Appeals, Baptist Hospital, Red Cross, American Cancer Society, Beaumont Chamber of Commerce, and City Planning and Zoning Commission. A reception honoring Mr. Nelson as the award winner was held on April 10th.

At Rochester Gas and Electric Co., **Francis E. Drake, Jr.,** has been promoted to Manager of the Rate and Economic Research Department and **Foster B. Burnett** to Assistant Manager of that department.

Mr. Drake was employed in 1937 in the Electric Distribution Engineering Department as a field engineer. In 1946 he became a technical engineer and in 1949 assistant superintendent in the same department. In 1954 he was promoted to assistant manager of the Rate and Economic Research Department.

A graduate of Columbia University, he holds a professional engineer's license in New York and Pennsylvania. He is a member of the American Institute of Electrical Engineers, American Gas Association, and the New York State Society of Professional Engineers.

Mr. Burnett, who is a graduate of Ohio State University, joined RG&E in 1930 as an analyst in the Rate and Economic Research Department.

Accounting Conference

(*Continued from page* 135)

Electric Co. (Inc.), two papers were presented at this session. They were "Judicial Revisions of the Statutory Capital Asset Concept," by James M. Kearns, Michigan Consolidated Gas Co., and "Initial Delay Rentals—Capital or Expense?" by Herbert E. Nord, The East Ohio Gas Co.

On Wednesday morning, Claude E. York, The Cincinnati Gas & Electric Co., presented "A Correlated Employee Benefit Program," and John Davidson, Consolidated Natural Gas Co., presented "Tax Stamps on Notes" in which he brought up to date the effect of court decisions in this field. In addition, Walter S. Alt, Union Electric Co. of Missouri, discussed a number of cases in income taxation. Each of the papers was followed by discussion from the floor.

General Activities

Two papers and a panel discussion highlighted the General Activities session which was held on Tuesday morning. C. T. Dwight, The Hartford Electric Light Co., and R. H. Johnson, The Brooklyn Union Gas Co., presided at this session.

Presenting papers at this session were John W. Balet, Consolidated Edison Co. of New York, Inc., who spoke on "Electronic Processing of Payroll," and A. B. Toan, Jr., Price Waterhouse & Co., whose subject was "Auditing Electronically Produced Records."

The panel discussion was on the subject of "Liberalized Depreciation." George T. Logan, Philadelphia Electric Co., acted as moderator. Members of the panel were A. R. St. Bernard, The Cleveland Electric Illuminating Co., representing the General Accounting Committee; L. W. Robinson, Consumers Power Co., representing the Depreciation Accounting Committee; G. A. Brownmiller, The Connecticut Light & Power Co., representing the Plant Accounting and Property Records Committee; and James K. Polk, Whitman, Ransom & Coulson, representing the Taxation Accounting Committee.

Inasmuch as this panel was composed of experts in many varied accounting fields an unusally broad coverage of the complexities of accelerated depreciation was obtained.

Electronic Session

The last scheduled event of the conference was an Electronic Accounting Machines Developments luncheon on Wednesday. Walter Ott, The Cincinnati Gas & Electric Co., and Ralph F. McGlone, The East Ohio Gas Co., presided at the luncheon.

Bernard S. Rodey, Jr., Consolidated Edison Co. of New York, Inc., spoke at this session on "Progress in Research—Report of the Harvard Project Steering Committee."

Mr. Ott and Mr. McGlone were moderators for a discussion of "Electronics—the 1956 Viewpoint" by a panel composed of Russ Britt, Wisconsin Electric Power Co.; Bill Eggleston, Commonwealth Edison Co.; Doug Elliott, The Detroit Edison Co.; Phil Gadsden, Jr., Philadelphia Electric Co.; Ray Johnson, The Brooklyn Union Gas Co.; Ralph McCollum, The Peoples Gas Light and Coke Co.; Fred Porter, Jr., Consolidated Edison Co. of New York, Inc.; Joe Vanier, Southern California Gas Co.; Emmet White, Public Service Electric and Gas Co.; and John Williams, Niagara Mohawk Power Corp.

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(Terms expiring 1957)

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